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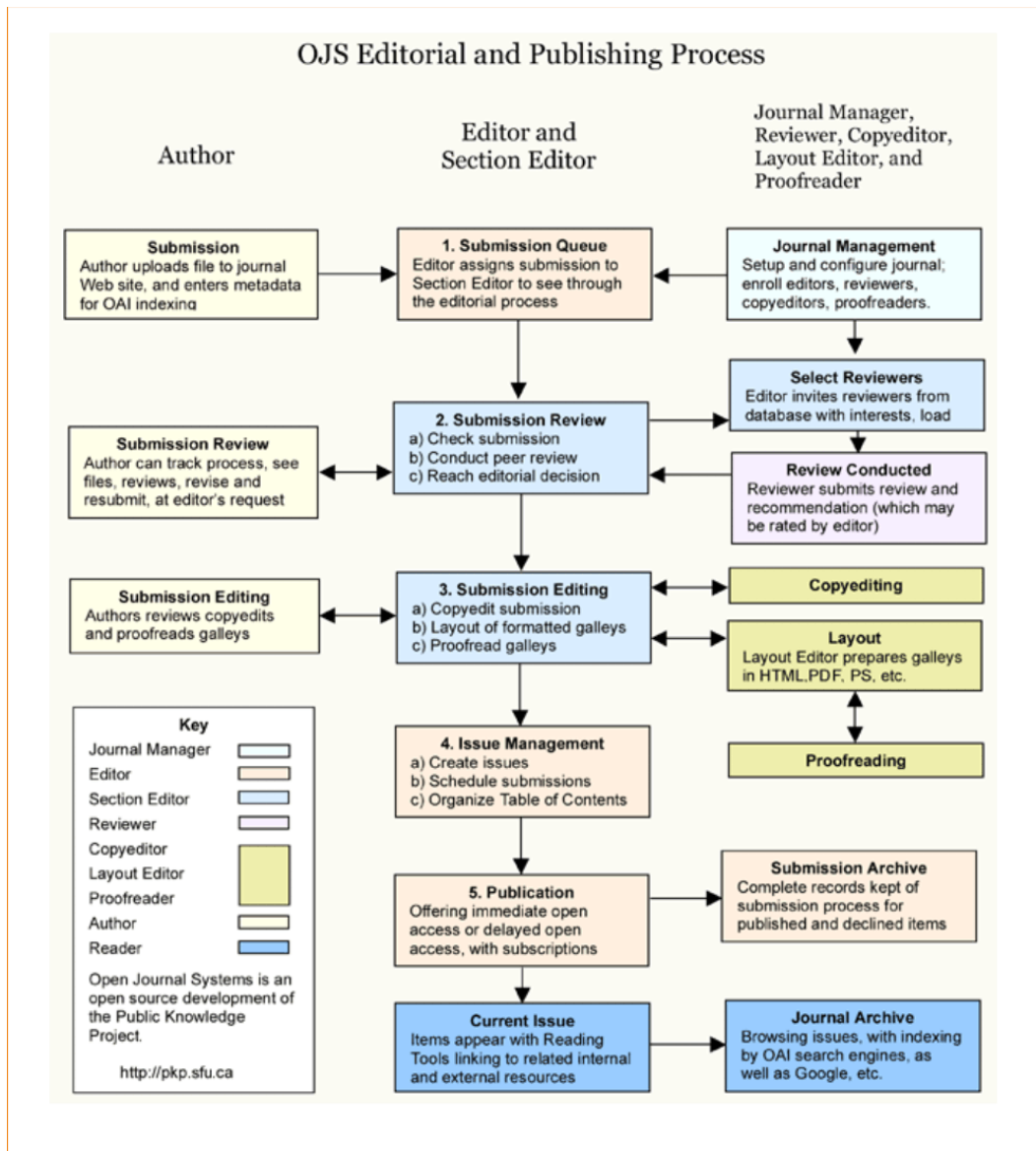
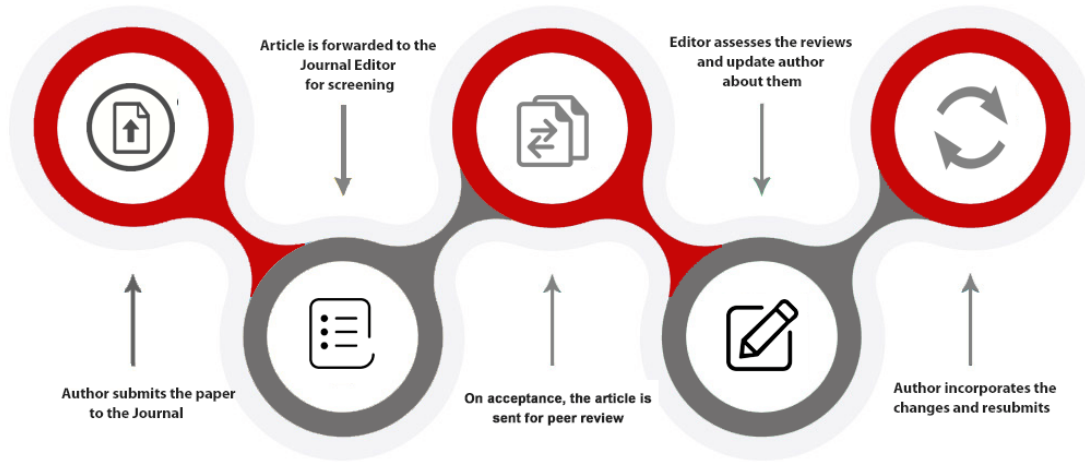
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Export Diversification and Business Startups in Africa

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ABSTRACT

Purpose: This study examines the impact of export diversification on new business formation.

Design/methodology/approach: Using an instrumental variable approach within a count data framework that relies on a panel dataset of 10 African countries (Algeria, Gabon, Lesotho, Morocco, Nigeria, Sierra Leone, Togo, Tunisia, Uganda and Zambia) observed between 2008 and 2018 annually, the evidence shows a non-trivial effect of export diversification on business start-ups. In particular, the odds of a new business being registered increase by 1.7 – 3.5 times in response to a percentage point increase in export diversification.

Findings: This result reinforces the need for supportive policies aimed at moving away from concentrated export baskets towards more diversified ones to leverage entrepreneurial effort in the selected African countries.

Paper type: Research Paper

Keywords: *Export diversification, Business Start-ups, Africa, Economic Development.*

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I. INTRODUCTION

Entrepreneurship and business start-ups are now widely regarded as paramount to employment creation in the developing world (see Stoica, Roman and Rusu, 2020; Peprah and Adekoya, 2020 and more recently Ivanović-Đukić, Krstić, and Rađenović, 2022). This understanding has steered research seeking to understand the relevant drivers of entrepreneurship. From this new line of research, most common drivers highlighted in literature range from credit access (Charfeddine and Zaouali, 2022), the quality of institutions (Audretsch, Belitski, Caiazza, and Desai 2022), entrepreneurship education (Colombelli, Loccisano, Panelli, Pennisi, and Serraino, 2022) to information, communication and technology (ICT) (Brown, Saxena, and Wall, 2022) and energy constraints (Owusu, Agyemang, and Agyeman, 2022). In the process of identifying factors affecting entrepreneurship, existing studies have neglected the potential effects of export diversification which is surprising given the potentially strong link between the two both theoretically and empirically.

Export diversification can be described as an increase in the number of distinct products in the export base, combined with a reduction in dependence on any one product as a source of foreign exchange earnings. It essentially reflects the degree to which a country's exports are spread across a large number of products and/or trading partners which contrasts with export concentration where a greater focus of trade is on a small number of commodities and/or trading partners. For export dependent countries, export diversification supports a shift from an overreliance on commodities to higher-value added products and services for export dependent countries helping them build, in the process, resilience against demand and external price shocks. This understanding has dominated international trade platforms concerned with the implications of commodity price volatility such as the 2009 sixty-seventh session of the committee on commodity problems hosted by the Food and Agriculture Organization (FAO) in Rome and the 2019 seminar on commodity dependence and sustainable development hosted by the United Nations Conference on Trade and Development in Geneva. The purpose of this paper is to neither challenge nor vilify this existing understanding but to complement through suggesting and empirically testing the potential connection between export diversification and entrepreneurship.

In theory, export diversification can be linked to entrepreneurship on at least three grounds. Firstly, by implication, a diversified export basket tends to be naturally associated with the inclusion of small and medium-sized enterprises, an old experience that has become popular in recent years on the back of rising global value chains. Mauritius' successful export diversification away from agricultural products in the early 70s illustratively led to the emergence of small to medium enterprises in the textiles and clothing industries. The intuition is that increasing the product lines in the export basket creates new opportunities to those with an entrepreneurial mind set, ability and resources. In other words, diversification of a country's export basket likely promotes entrepreneurship in the tradable sector in so far as it entails adding new products or services to the range of existing ones. The interconnectedness of tradable and non-tradable sectors owing to local supply chains and spillover effects means that export diversification is capable of creating new businesses in the non-tradable sector too. Secondly, the creation of markets due to export diversification facilitates innovation which has been found to correlate positively with entrepreneurship in several studies. Thirdly, export markets are usually profitable but naturally riskier than domestic markets due to volatility of exchange rates and external demand shocks, two features which are consistent with the definition of entrepreneurship.

Despite the above compelling theoretical avenues, there is no systematic evidence on export diversification and entrepreneurship in empirical literature. The closest studies such as Van Hoa (2011), Chen and Peng (2017), Coulibaly, Erbao and Mekongcho (2018) and more recently Moore, Dau, and Mingo (2021) have rather focused on either international trade shares or international trade integration which are a similar but different concepts. These studies can be broadly categorised into two groups with the first group comprising studies reliant on standard regression models and the second group comprising those based on general equilibrium models. Recent examples of the former group include Moore, Dau, and Mingo (2021) who probe the effect of trade integration on entrepreneurship (both formal and informal) in a panel data framework of 68 countries observed over a 11-year period and Coulibaly, Erbao and Mekongcho (2018) who sought to answer a similar question in the context of BRICS countries (Brazil, Russia, India, China, and South Africa). In both cases, trade integration is found to correlate positively with entrepreneurship. Intuitively, the explanation provided by Moore, Dau, and Mingo (2021) is that trade agreements (which promote trade integration) lead to the formation of sound institutions that encourage entrepreneurial activity. Coulibaly, Erbao and Mekongcho (2018) raise a distinct mechanism which is that trade integration facilitates a mutual reliance between local or global entities which ultimately leads to a profit yielding free flow of production factors, small business practices, innovation and risk ventures. The desire to tap into these profitable albeit risky ventures to them is what explains the strong positive association between trade integration and entrepreneurship.

For Chen and Peng (2017), a general equilibrium approach is employed with a particular focus on the implications of heterogeneous entrepreneurs for the welfare gains from trade in a monopolistic competition model with a demand system of constant elasticity of substitution (CES). Similar to the result confirmed in standard regression based studies, Chen and Peng (2017) find free trade prelude to a sizeable increase in entrepreneurship and its contribution on welfare growth. This conclusion is consistent with a position reached in one of the earlier papers on entrepreneurship by Rauch and Watson (2004) based on a similar methodological approach. In particular, the hypothesis raised by Rauch and Watson (2004) which they found empirical support for in a simple general-equilibrium model framework is that agents who become international trade intermediaries first accumulate networks of foreign contacts while working as employees in production or sales, then become entrepreneurs who sell access to and use of the networks they accumulated. In other words, being involved in a trade network as an employee increases one's probability of becoming an entrepreneur. Similarly, from a theoretical point of view, Murphy et al. (1991) provide a supportive argument that trade-promoting factors such as lower communication and transportation costs are prelude to what they termed 'productive entrepreneurial activities' referring to formal entrepreneurship that withstands competition.

The above studies have obvious limitations. Firstly, international trade shares measure, at best, trade intensity and do not, by measurement, reflect the extent to which a trade basket is diversified. In other words, by observing high trade shares, one cannot tell whether that is driven by an expansion of new product lines or an increase in the concentration of existing products. The latter is in our view not conducive for entrepreneurship in so far as it limits business opportunities due to the narrowness of the export market. International trade integration on the other hand gauges the extent to which a country is integrated into global trade and does not, by definition, reflect the extent to which the country's export basket is diversified.

Aside from the studies reliant on trade shares and trade integration, the rest of the literature in general comprises broad studies on the determinants of entrepreneurship which include Cuervo (2005), Gómez-Gras, Mira-Solves and Martínez-Mateo (2010), Ghani, Kerr and O'Connell (2014), Arin, Huang, Minniti, Nandialath, and Reich (2015), Dvouletý (2018), Igielski (2021), Kalisz, Schiavone, Riviaccio, Viala and Chen (2021) and Zmami and Salha (2021). Some of the key determinants highlighted in this literature includes national culture, entrepreneurial training, the quality of institutions and macroeconomic performance. We improve this literature by paying exclusive focus on export diversification as a determinant of entrepreneurship.

It is important at the outset to stress that literature generally lacks a solid and unified theoretical model from which the effect of export diversification on entrepreneurship can be examined. This is not uncanny however given the general lack of formal theories on trade itself and entrepreneurship as argued by Murphy, Shleifer, Vishny (1991). In the absence of a unified theoretical framework, majority of existing studies have heavily relied on existing and plausible theoretical arguments most of which are sub variants of the Grossman and Helpman's (1991) quality ladders theory. Grossman and Helpman (1991) particularly developed a model of repeated product improvements in a continuum of sectors and view product innovation as a process of generating an ever-expanding range of horizontally differentiated products. Our interest here is on export diversification, the degree to which a country's exports are spread across a large number of products and/or trading partners, hence we need a similar but distinct theoretical model that suits our objective.

In the absence of such a model, we develop one in which export diversification incentivizes those with an entrepreneurial mind-set to start new businesses. We then test the predictions of this theoretical model using a panel dataset of 10 countries (Algeria, Gabon, Lesotho, Morocco, Nigeria, Sierra Leone, Togo, Tunisia, Uganda, Zambia) observed between 1980 and 2018. Africa has been one of the most underdeveloped regions of the World in the last three decades. Poverty and unemployment remain relatively high. Growth is sluggish while trade is heavily subdued by supply side constraints. These developmental challenges have seen structural change, export diversification and entrepreneurship emerge within policy circles as necessary vehicles for advancing economic transformation in the region. Our hope in this regard is to provide empirical evidence that complement these policy efforts by quantifying the impact of export diversification on entrepreneurship within the African context.

The remainder of the paper is organised as follows: section 2.1 outlines the methodological approach of the study. Results are presented, interpreted and discussed in section 3. The last section provides concluding remarks.

II. METHODS

We rely on a panel dataset of 10 African countries (Algeria, Gabon, Lesotho, Morocco, Nigeria, Sierra Leone, Togo, Tunisia, Uganda, Zambia) observed between 2008 and 2018 annually. This represents a panel dataset of dimensions $T=11$ and $N=10$ which yields a total of 110 annual observations (i.e. $N=11 \times 10$). It would have been desirable to stretch our analysis beyond 2018 but we are similarly constrained by data unavailability in relation to export diversification as it ends in 2018 from our primary data source. From the literature, entrepreneurship has been measured mostly based on the total entrepreneurial activity (TEA) variable from the Global Entrepreneurship Monitor (GEM) which essentially capture entrepreneurial behaviour and attitudes of individuals such as ownership of young firms and the intentions to become and entrepreneur. Studies reliant on such measures include, but are not limited to, Cervený, Pilcová and Reháč (2016), Rusu and Roman (2017), Maduku (2019) and Tunio et al. (2021). While these measures are useful in their own right, we find them undesirable for our analysis on two grounds. Firstly, they are hardly available consistently across countries over time making it extremely difficult to gather a sufficiently large sample size necessary for a meaningful analysis. Secondly, they are survey based indicators largely based on perceptions which, as a result of potential inaccuracies, make them capable of underestimating or overestimating the true extent of entrepreneurial activity in a given country. Cognisant of these two limitations, we resort to an alternative measure which we believe is a better indicator of entrepreneurship and it is the number of new businesses registered in each country on a yearly basis as measured by the World Bank. This indicator narrows our focus down to formal entrepreneurship as informal entrepreneurs are not registered and therefore omitted by measurement. We sourced data on newly registered businesses from the World Bank's Entrepreneurship Database (WBED) which is a reliable data source at international level.

A. Model Specification

The dependent variable here is the number of newly registered businesses. Since this measurement implies the presence of non-negative integers, conventional approaches such as the OLS method may not be appropriate (Rufancos et al., 2013) as residual normality may not be guaranteed (Chib and Winkelmann, 2001, Osgood, 2000, Kelly, 2000). Under this circumstance, an ideal approach is one that relies on count data models (Hausman et al., 1984; Cameron and Trivedi, 1998). The usual starting point is the Poisson model whose loglinear specification takes the following form.

$$\ln \lambda_{it} = c_i + \tau_t + x'_{it}\theta + \mu_{it} \quad (1)$$

where subscripts i and t denote country and time, respectively, \ln represents natural logarithm, λ is the count of newly registered businesses, c_i serves to absorb unobservable individual specific effects (which represent heterogeneity endogeneity) and τ_t captures common time dependent shocks, x is a vector of explanatory variables which include a measure of export diversification, θ is the corresponding vector of unknown coefficients to be

estimated and μ is the error term. Inclusion of export diversification in vector x is guided by our theoretical model while control variables in the same are selected on the basis of empirical literature. The control variables particularly include an institutional index following Chowdhury, Audretsch, and Belitski (2019), an information, communication and technology (ICT) index following Afawubo and Noglo (2022), an index for energy following Malen and Marcus (2017) and human capital in line with Nguyen, Canh, and Thanh (2021) all sourced from the United Nations Conference of Trade and Development (UNCTAD). From the literature, we expect all the control variables to associate positively with new business formation.

Regarding the main variable of interest following standard literature (Duru and Ehidiemhen, 2018; Basile, Parteka and Pittiglio, 2018; Mania and Rieber, 2019), we rely on a slightly modified version of the Herfindahl-Hirschmann Index (Product HHI) which is a measure of the degree of product concentration based on the following formula.

$$H_j = 1 - \left(\frac{\sqrt{\sum_{i=1}^n \left(\frac{x_{ij}}{X_j}\right)^2} - \sqrt{\frac{1}{n}}}{1 - \sqrt{\frac{1}{n}}} \right)$$

where H_j is a country index, x_{ij} is the value of export for country j and product i so that

$$X_j = \sum_{i=1}^n x_{ij}$$

And n = number of products (SITC Revision 3 at 3-digit group level). Measured this way, an index value closer to 1 indicates a country's exports are more homogeneously distributed among a series of products and are therefore diversified while an index value closer to 0 indicates that exports are less diversified and highly concentrated on a few products.

Table 1. Table of Variables

<i>Variable</i>	<i>Description/ measurement</i>	<i>Source</i>	<i>Expected sign</i>
<i>Entrepreneurship</i>	<i>Number of newly registered businesses</i>	<i>WDI</i>	
<i>Export diversification</i>	<i>1- Herfindahl-Hirschmann Index</i>	<i>UNCTAD</i>	<i>+</i>
<i>Human capital</i>	<i>Human capital index</i>	<i>UNCTAD</i>	<i>+</i>
<i>Energy</i>	<i>Energy index</i>	<i>UNCTAD</i>	<i>+</i>
<i>Institutions</i>	<i>Institutions index</i>	<i>UNCTAD</i>	<i>+</i>
<i>ICT</i>	<i>ICT index</i>	<i>UNCTAD</i>	<i>+</i>
<i>Real exchange rate</i>	<i>Real effective exchange rate</i>	<i>WDI</i>	<i>+/-</i>
<i>Industrialization</i>	<i>Share of industry on GDP</i>	<i>WDI</i>	<i>+</i>
<i>Terms of trade instability</i>	<i>5 year rolling standard deviation of terms of trade</i>	<i>WDI</i>	<i>+/-</i>

Note: UNCTAD=United Nations Conference on Trade and Development, WDI=World Development Indicators

Technically, equation (1) lays to rest concerns of time-invariant factors specific to each country that may affect both x and λ through the explicit inclusion of c_i . By so doing, it addresses heterogeneity endogeneity but

leaves open the problem of idiosyncratic endogeneity which we fear might arise from relevant time-varying factors nested in the error term. One of these factors could be credit access, an important determinant of both entrepreneurship and export diversification (see Bassetto, Cagetti, and De Nardi., 2015; Herkenhoff, Phillips and Cohen-Cole, 2021) which we could not control for because of data unavailability. With the predicted positive effect of credit access on both entrepreneurship and export diversification, a positive sign on export diversification in equation (1) would consequently overstate the true effect of export diversification on entrepreneurship. There is also a plausible possibility of new businesses influencing a country's level of diversification. The consequences of both scenarios are serious as they imply having a slope coefficient on export diversification that is exposed to a small sample bias that does not disappear asymptotically. Dealing with this kind of endogeneity is straightforward in linear regression methods but considerably less so in non-linear regression methods. Within a Poisson cross sectional regression framework, the Generalised Method of Moments (GMM) can be applied with appropriate instruments as discussed in Wooldridge (2010). This approach is problematic however and mullied by scepticism in panel data Poisson regression given two additional challenges that panel data brings; unobserved heterogeneity and period effects often controlled by N-1 and T-1 dummies respectively both which have a tendency of violating order conditions as the structural equation is likely to have more parameters than instruments.

Given the above challenge, we follow a CF procedure of Papke and Wooldridge (2008) recently modified by Lin and Wooldridge (2018), (the LW procedure, hereafter). The LW procedure essentially proceeds in stages. Firstly in this context, the idea is to estimate the expected number of newly registered businesses conditioned on an endogenous export diversification index (y_{it2}), exogenous variables (z_{it1}), country-specific effects i.e. unobserved heterogeneity (c_{i1}) and time-varying omitted factors (r_{it1}). This can be represented by the following expressions.

$$\ln \lambda_{it} = E(y_{it1} | y_{it2}, z_{it1}, c_{i1}, r_{it1}) = E(y_{it1} | y_{it2}, z_{it1}, c_{i1}, r_{it1}) = c_{i1} \exp(x_{it1} \theta_1 + r_{it1}),$$

where,

$$x_{it1} = (y_{it2}, z_{it1})$$

Vector z_{it1} also includes $T - 1$ time dummies denoted by τ_t in equation (2). The first step estimates the reduced form equation for the endogenous regressor (y_{it2}) by the fixed effects (FE) approach and obtain the FE residuals. In the reduced form equation, we need valid instruments which should typically be correlated with export diversification but uncorrelated with new businesses. Here we propose three instruments namely the share of manufacturing on GDP, the real exchange rate and a measure of terms of trade instability. The choice of these variables as relevant possible instruments is based on two considerations. First, there is an overwhelming literature citing these variables as relevant determinants of export diversification (see for example Agosin, Alvarez and Bravo-Ortega, 2012; Elhiraika and Mbate, 2014; Fonchamnyo and Akame, 2017). Secondly, we do not find any direct link between new business registration and these variables plausible. Further supporting the latter point is the dearth of studies showing a statistically significant and direct association between the proposed instruments and the formation of new businesses.

The three proposed instruments are included in the first step regression along with fixed effects and other control variables that appear in the structural equation (described shortly). The intuition here is that the selected instruments embedded in \tilde{z}_{it} become strictly exogenous once we control for country-specific effects. FE residuals are then computed as,

$$\widehat{u}_{it2} = \dot{y}_{it2} - \dot{z}_{it} \widehat{\Pi}_2$$

where the hat denotes predicted values and the two upper dots signal time averages i.e.,

$$\dot{y}_{it2} = y_{it2} - T^{-1} \sum_{r=1}^T y_{ir2}, \quad \dot{z}_{it} = z_{it} - T^{-1} \sum_{r=1}^T z_{ir}$$

and, in the second stage, plugged in the FE Poisson regression mean specification (with bootstrapped standard errors) given by,

$$E(y_{it1} | z_{it1}, y_{it2}, \widehat{u}_{it2}, c_{i1}) = c_{i1} \exp(x_{it1} \theta_1 + \widehat{u}_{it2} \rho_1)$$

in which robust Wald test of ρ_1 will be a test for exogeneity with respect to idiosyncratic shocks. The next section presents, interprets and discusses the empirical findings.

III. RESULTS AND DISCUSSION

Summary statistics presented in Table 3.1 indicate a minimum and maximum diversification index of 0.16 and 0.87 observed in Nigeria and Tunisia, respectively. Nigeria's export basket is narrow primarily centered on petroleum and petroleum products, cocoa and rubber. On the contrary, Tunisia has a number of comparative advantages that have helped it develop a diversified economy including its geographical location that facilitate

easy access to European, Middle Eastern, and African markets and enable its companies to link into EU supply chains. With regard to entrepreneurship, the lowest number of newly registered businesses is 62 from Togo observed in 2008 possibly reflecting the effects of the 2008/09 Global Financial Crises (GFC). The maximum number of newly registered companies is 86309 from Nigeria in 2018.

Table 2. Summary Statistics

	<i>Obs</i>	<i>Mean</i>	<i>St.Dev</i>	<i>Min</i>	<i>Max</i>
<i>MANUF</i>	110	13.83392	8.465899	1.532609	48.95478
<i>reer</i>	110	99.67427	10.63832	71.45553	142.5592
<i>logtot_sd5</i>	110	0.099200 7	0.072271 3	0.017482 1	0.281853 7
<i>Institution index</i>	110	42.33862	6.811768	28.83452	53.94338
<i>ICT index</i>	110	6.690194	2.274621	3.268088	11.25017
<i>Energy index</i>	110	22.44379	10.17738	5.606929	59.21154
<i>Human capital index</i>	110	40.65272	7.538712	28.76007	56.81438
<i>New businesses</i>	110	15424.61	21780.83	62	86309
<i>Diversification</i>	110	0.589799 5	0.236292	0.157234	0.865913 9

Visually looking at Figure 1, export diversification correlates positively with new businesses conditioned on unobservable country-specific effects, time effects and control variables. In other words, the correlation results displayed in Figure 3.1 confirms our prior expectations; the number of new businesses is high in highly diversified countries and less so in less diversified economies. Technically, this is a conditional association that disregards possible idiosyncratic endogeneity which we will address shortly in our baseline regression estimates. The correlation coefficient accompanying the positive linear line is 0.12 with a standard error of 0.016 and a sizeable t-statistic of 7.6.

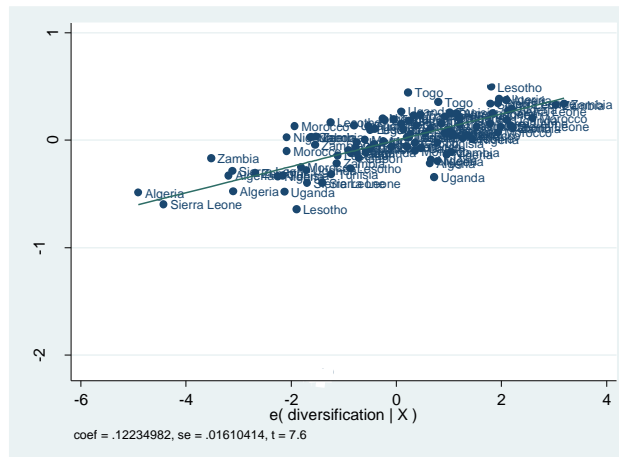


Figure 1. Export Diversification and Entrepreneurship

We proceed to formally inspect the association between the pair in Table 3.2. We have partitioned the table into three columns. The first column contains estimates from the first stage regression in which our export diversification variable is regressed on three instruments (terms of trade volatility, the share of manufacturing and the real exchange rate) along with other variables that essentially explain entrepreneurship. The second column then uses the residuals computed from the first column as an explanatory variable the intuition being that the remaining variation in export diversification becomes exogenous once this residual series is controlled for. What distinguishes the second and the third variants is simply a case of specification as the latter excludes other explanatory variables. As Table 3. shows, we find evidence of a significant association between all our three instruments and export diversification which is encouraging in so far as it suggests that the three variables could be relied upon as relevant instruments with some considerable degree of confidence. Across all three variants, time dummies were included (but not reported for brevity sake) as an attempt to control for unobservable time-dependent shocks. Their inclusion was statistically supported by a Wald test for joint significance which produced a highly significant probably values.

Turning to the interpretation of our empirical estimates, our export diversification index enters, positively, sizeably and significantly in the two regression variants which it appears as an explanatory variable confirming our prior expectations. The positive and significant coefficient of export diversification particularly suggests that diversifying export baskets significantly increases the odds of a new business being registered in each given year by 1.7 – 3.5 times controlling for terms of trade volatility, exchange rate movements, technological progress, the quality of institutions, the level of industrialization, human capital accumulation and energy availability. The residual component computed in the first stage regression is statistically significant demonstrating the importance of addressing endogeneity when probing the effect of export diversification on entrepreneurship. In other words, failure to include the residual component in the second and third regression variants would have rendered the positive effect of export diversification on entrepreneurship biased and inconsistent.

Table 3. Export Diversification and Entrepreneurship

	(1)	(2)	(3)
	<i>1st stage reg.</i>	<i>2nd stage reg.</i>	<i>2nd stage reg.</i>
	<i>FE</i>	<i>FE-Poisson</i>	<i>FE-Poisson</i>
<i>logtot_st5</i>	-0.334***		
	(0.0372)		

<i>manuf</i>	0.00548*		
	(0.00291)		
<i>logreer</i>	-0.271*		
	(0.135)		
<i>loghc</i>	0.831***	0.669***	
	(0.0752)	(0.0497)	
<i>logict</i>	0.203***	0.743***	
	(0.0321)	(0.0176)	
<i>logenergy</i>	0.110***	0.0516***	
	(0.0154)	(0.0132)	
<i>loginst</i>	0.187**	0.00238**	
	(0.0773)	(0.00101)	
<i>diversification</i>		0.220***	0.548***
		(0.0132)	(0.0115)
<i>error</i>		-1.491***	-1.468***
		(0.0375)	(0.0351)
<i>Period effects</i>	yes	yes	yes
<i>Observations</i>	110	110	110
<i>Number of id</i>	10	10	10

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Other control variables enter with expected signs. The human capital index is positively signed and statistically significant at 1 percent level corroborating the importance of human capital as a precondition for leveraging entrepreneurship. Human capital captures the skills and knowhow necessary to formulate business ideas and translate them into new businesses. This notion is widely supported by the experiences of several countries worldwide such as Rwanda, Hong Kong and China where support in education has been accompanied by a surge of new businesses. From an empirical standpoint, the result is in tandem with Estrin, Mickiewicz and

Stephan (2016) and more recently Nguyen, Canh and Thanh (2021). ICT enters positively and significantly as expected validating the results observed in Afawubo and Noglo (2022). Intuitively, ICT boost entrepreneurship through several channels which include the reduction in transaction costs, improvements in organizational routines, and the strengthening of relationships between clients and suppliers (Afawubo and Noglo, 2022).

The energy index enters positively adding empirical weight to the common narrative that access to energy enhances economic development and stimulates the establishment of enterprises. As de Groot, Mohlakoana, Knox and Bressers (2017) posit, improved access to energy provides a platform from which enterprises can operate efficiently and effectively in their day to day operations. Our results particularly suggest that the odds of having new businesses registered each year are much higher in countries with improved access to energy. Regarding institutions, a plethora of studies such as Chowdhury, Audretsch and Belitski (2019), Khalilov and Yi (2021) and Su (2021) has shown that property rights, impartial court systems and a robust rule of law are vital in stimulating entrepreneurial ventures. The next sub section attempts to test the robustness of our central finding that export diversification positively and significantly influences entrepreneurship.

A. Robustness Check

We begin with the common post estimation question, to what extent is our central result sensitive to the presence of outliers? Atypical observations, if present, have important implications in so far as they potentially invite a small sample bias on our key estimate which does not disappear asymptotically. With this in mind, we employ the blocked adaptive computationally efficient outlier nominators (BACON) algorithm proposed by Billor, Hadi, and Velleman (2000) to try and detect the presence of atypical observations. As Figure 3.2a clearly shows, the BACON algorithm identifies a total of 11 outliers which essentially represent Nigeria as Figure 3.2b confirms.

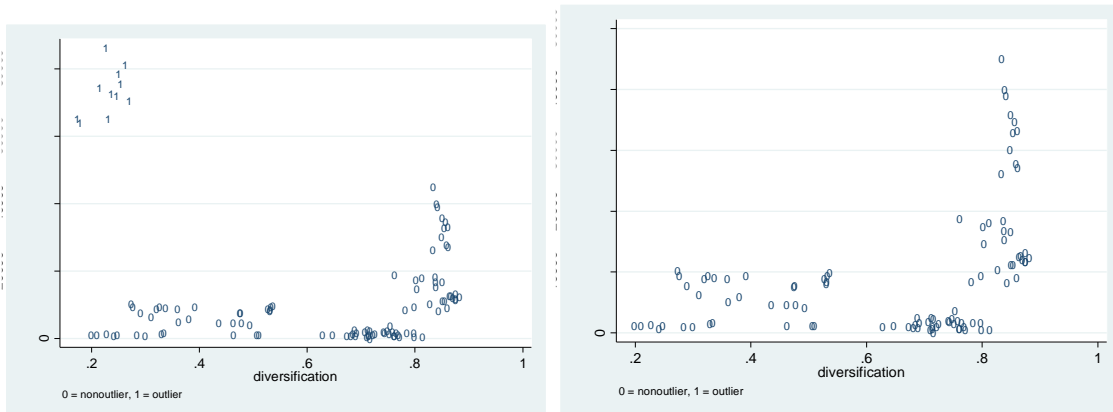


Figure 2. (a) Total Sample, (b) Without Nigeria

Against this background, we dropped Nigeria and repeated our estimations. Interestingly, the exclusion of Nigeria from the sample does not appear to influence our central as the export diversification index remains positive, sizeable and highly significant across the three regression variants. In fact, the exclusion of Nigeria actually makes the effect of export bigger as the coefficient rises from 0.220 to 0.573 in the baseline specification and from 0.548 to 0.68 in the parsimonious specification. This observation clearly puts to bed concerns that the coefficient of export diversification reported in Table 3.2 could be exaggerated by outliers. All our control variables still enter with the same expected signs. Evidence still validate the positive effect of human capital, energy, institutions and ICT.

Table 4. Export Diversification and Export Diversification (without Nigeria)

	(1)	(2)	(3)
	<i>1st stage reg.</i>	<i>2nd stage reg.</i>	<i>2nd stage reg.</i>
	<i>FE</i>	<i>FE-Poisson</i>	<i>FE-Poisson</i>

<i>logtot_sd5</i>	-0.167***		
	(0.0351)		
<i>manuf</i>	0.00216***		
	(0.000662)		
<i>logreer</i>	-0.483***		
	(0.0277)		
<i>loghc</i>	2.121***	2.646***	
	(0.0640)	(0.0610)	
<i>logict</i>	0.950***	0.738***	
	(0.0236)	(0.0201)	
<i>logenergy</i>	0.215***	0.239***	
	(0.0147)	(0.0134)	
<i>loginst</i>	2.177***	1.316***	
	(0.0715)	(0.0610)	
<i>diversif</i>		0.573***	0.675***
		(0.0388)	(0.0373)
<i>error</i>		-1.368***	-1.702***
		(0.0262)	(0.0186)
<i>Period effects</i>	yes	yes	yes
<i>Observations</i>	99	99	99
<i>Number of id</i>	9	9	9

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As a second robustness check, we consider a completely different methodological approach by (i) categorizing countries into highly diversified and moderate to less diversified economies and (ii) proceed to use the difference-in-difference estimation approach. We particularly consider a country’s export basket diversified if its average diversification index during the sampling period is at least 75 percent otherwise a country’s export basket will be regarded as moderate to less diversified if the average diversification index is less than 75 percent. Noteworthy is that Nigeria is included in this robustness exercise as Table 3.3 has proved that its exclusion does not significantly alter our central result. With this categorization, we have Morocco, Togo, Tunisia and Uganda as our highly diversified economies and Algeria, Gabon, Lesotho, Nigeria, Sierra Leone and Zambia as our moderate to less diversified economies (see Table 3.4).

Table 5. Categorisation by the extent of diversification

<i>Highly Diversified Economies</i>		<i>Moderate to Less Diversified economies</i>	
<i>Country</i>	<i>Average export diversification index</i>	<i>Country</i>	<i>Average export diversification index</i>
<i>Morocco</i>	<i>0.83</i>	<i>Algeria</i>	<i>0.48</i>
<i>Togo</i>	<i>0.75</i>	<i>Gabon</i>	<i>0.31</i>
<i>Tunisia</i>	<i>0.85</i>	<i>Lesotho</i>	<i>0.71</i>
<i>Uganda</i>	<i>0.80</i>	<i>Nigeria</i>	<i>0.21</i>
		<i>Sierra Leone</i>	<i>0.61</i>
		<i>Zambia</i>	<i>0.31</i>

Source: authors’ categorization based on the diversification index

As already indicated, we then considered the difference-in-difference method where the dependent variable is now the logarithm of newly registered businesses and the right-hand side variables remain the same apart from a dummy that separates highly diversified economies from moderate to less diversified ones and additional two terms capturing country fixed effects ($COUNTRY_i$) and year-fixed effects ($YEAR_t$). The intercept of this specification would essentially represent the average percentage newly registered businesses over the entire sample period after controlling for country-fixed effects while the slope coefficient of interest next to the diversification dummy would gauge the extent to which an exogenous shock having nothing to do with export diversification drives up the number of newly registered businesses in highly diversified economies.

As one would likely and rightly suspect, the residual term of such a specification which we do not report for brevity would raise serious methodological concerns as the standard distributional assumptions needed for valid statistical inference will not hold in the presence of autocorrelation across countries within a given time period and or autocorrelation within a given country over time. The former matters because the push for export diversification may occur at the same time for different countries possibly inducing correlation in the newly registered businesses residuals across countries at a given point in time. The latter matters since it generally takes time for the number of newly registered businesses to adjust to their new trajectory owing to structural impediments and inertia effects. Thus for a given country, the number of newly registered businesses may remain elevated below its steady-state rate for a number of years highly diversified economies, thereby inducing serial correlation in the country’s newly registered businesses residuals. To compute standard errors that are correct in this regard, we construct clusters of residuals which allow for correlation within each cluster of observations. First, we cluster by year to produce standard errors that account for the possibility that shocks to the number of newly registered businesses are correlated across countries within a given year. Second, we cluster by country to produce standard errors that account for the possibility that the shocks to the number of newly registered businesses are correlated over time within a given country. We also report estimates that correct for heteroscedasticity.

Table 4.5 shows the results from this robustness exercise partitioned into three regression variants. Variant 1 is the baseline specification. Variants 2 and 3 construct standard errors by year and country, respectively. As the results indicate across all the four variants, the impact of high export diversification on the number of newly registered businesses is economically large and statistically significant. The estimate of the coefficient on the export diversification dummy ranges from 0.959 to 1.499. This means that in highly diversified economies, a typical country’s average percentage of new businesses is significantly higher than its long-run mean by an average of 95 – 150 percent per year.

An exogenous shock to newly registered businesses does not seem to drive the result as our specification controls for time effects. In addition, as we mentioned shortly above, a possible concern could be that heteroscedasticity and autocorrelation might distort statistical inference. This is not the case as the diversification dummy remains highly significant in variants 2 and 3 after adjusting the standard errors.

Table 6. Difference-in-Difference results – Diversification and Entrepreneurship

	<i>Baseline</i>	<i>Cluster (year)</i>	<i>Cluster (country)</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>
<i>loghc</i>	0.0274* (0.0146)	0.0274 (0.0454)	0.0274* (0.0158)
<i>logict</i>	0.0321*** (0.00370)	0.0221*** (0.00360)	0.0253*** (0.00370)
<i>logenergy</i>	-0.320*** (0.0247)	-0.320*** (0.116)	-0.320*** (0.0308)
<i>loginst</i>	-0.000543 (0.000633)	-0.000543 (0.000595)	-0.000543 (0.000428)
<i>loghc</i>	1.956*** (0.294)	1.956 (1.406)	1.956*** (0.376)
<i>logict</i>	0.671*** (0.231)	0.671*** (0.022)	0.726 (0.813)
<i>Year</i>	0.6311 (0.5813)	1.1602 (0.9821)	0.8261 (0.6833)

<i>Diversification</i>	0.9594***	1.194***	1.499***
	(0.063)	(0.058)	(0.045)
<i>Constant</i>	54.80***	54.80*	54.80***
	(5.814)	(27.44)	(7.473)
<i>Diversification</i>	<i>prob=0.0001</i>	<i>prob=0.0000</i>	<i>prob=0.0000</i>
<i>=YEAR</i>			
<i>Observations</i>	110	110	110

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As similarly observed in Table 3.2, all the control variables enter with the expected signs which is reassuring. Evidence still points to the importance of human capital accumulation, the quality of institutions, technological progress and energy availability as relevant drivers of entrepreneurship in the selected countries.

In our third attempt to check the robustness of our central result, we resort to graphs for visual inferences. In particular, we begin with the most diversified economy, Morocco, and try to trace the co-movements of new businesses and export diversification using a line graph. A quick visual inspection of Figure 3.3 provides some reassurance. As the most notable periods in circles indicate, an increase in export diversification appears to be followed by an increase in the number of new businesses. Although this observation alone may not be sufficient in determining the direction of causality, one thing it does is to dismiss any possible claim that export diversification is not good for entrepreneurship.

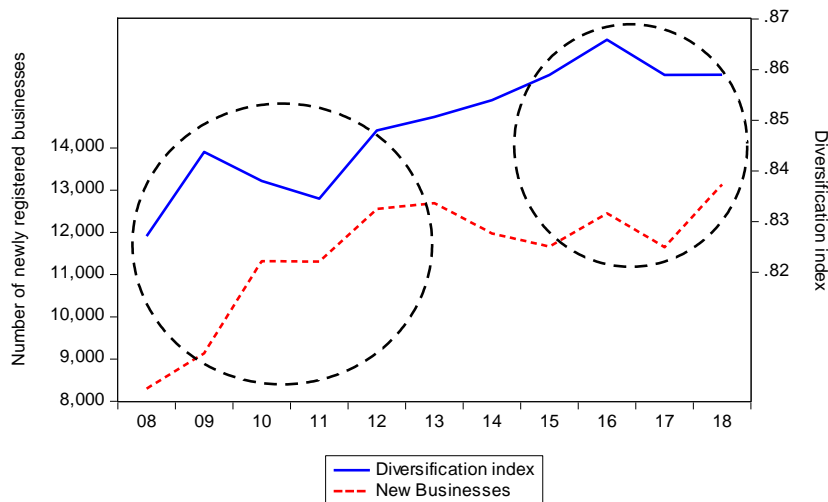


Figure 3. Export Diversification and Entrepreneurship in Morocco

Source: Authors' own computation

Next, we consider a simple exercise in which we look for a period in which Morocco experienced its highest growth in export diversification during the sampling period. We then plot a graph that compares the number of new businesses before and after this growth. As Figure 4.5 shows, Morocco's biggest growth in export diversification came in 2009, 3.5%.

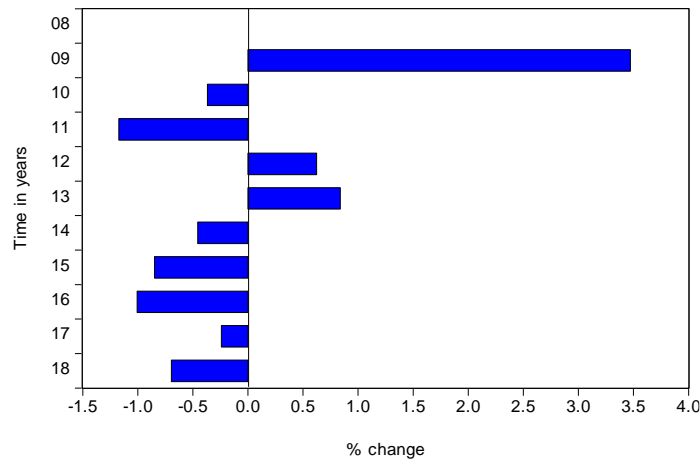


Figure 4. Morocco's Export Diversification Growth

Source: Authors' own computation

Figure 3.6 then compares Morocco's number of new businesses before and after the 3.5% growth in export diversification. The results are confirmatory. The number of new businesses registered in 2010 (t+1) was much higher than the number of new businesses registered in 2008 (t-1) adding weight to our central result that diversifying an economy's export basket is subsequently accompanied by an increase in the number of new businesses being registered.

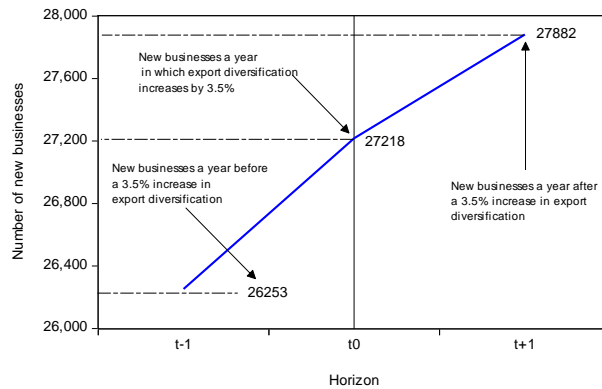


Figure 5: Morocco's New businesses pre and post the 3.5% Growth

Source: Authors' own computation

Overall, our empirical analysis confirms that export diversification has a positive, sizeable and statistically significant effect on entrepreneurship controlling for human capital accumulation, energy, the quality of institutions and technological progress. This central result lends empirical support to the notion that diversifying an economy's export basket creates business opportunities.

IV. CONCLUSION

Empirical evidence based on the experience of 10 African economies between 2008 and 2018 has confirmed a significantly positive association between export diversification and entrepreneurship. The analysis particularly finds a 1.7 – 3.5 times increase in the odds of a new business being registered in response to every percentage point increase in export diversification. This result can be taken with a considerable amount of confidence as we found it robust to the use of a different estimation approach and the presence of outliers. Our conclusion is essentially that export diversification matters and should be considered in the same bracket as other common determinants of entrepreneurship (i.e., access to credit, ICT and human capital among others). From a policymaking perspective, this conclusion reinforces the need for supportive policies aimed at moving away from

concentrated export baskets towards more diversified ones in order to leverage entrepreneurial effort in the selected African countries. Future work might benefit from expanding the dataset to include the experiences of non-African countries.

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Exploring the Challenges Faced by Small Insurance Brokers in Achieving Sustainable Growth: A Case Study in Botswana's Insurance Industry

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ABSTRACT

Purpose: This study assesses the challenges faced by small insurance brokers in Botswana, focusing on regulatory dynamics, market conditions, financial constraints, technological disparities, consumer preferences, marketing limitations, distribution challenges, service constraints, and training needs.

Design/methodology/approach: An online questionnaire was distributed to 50 small insurance brokers in Botswana, with a response rate of 70%. Semi-structured interviews were conducted with 10 key stakeholders, including regulators and customers, to gain deeper insights.

Findings: The findings highlight significant barriers such as complex regulatory procedures, limited access to capital, technological challenges, consumer biases towards larger firms, and inadequate marketing and distribution channels.

Research limitations/implications: The study's limitations include a focus on a specific geographic region and the reliance on self-reported data, which may introduce biases.

Practical implications: The study underscores the need for streamlined regulatory processes, innovative financial solutions, digital transformation, customer-centric strategies, and strategic partnerships.

Originality/value: This paper provides actionable insights for stakeholders to support the sustainable growth of small insurance brokers in Botswana, fostering a more inclusive and robust insurance sector.

Paper type: Research paper

Keywords: *Small insurance brokers, Botswana, regulatory challenges, financial constraints, digital transformation.*

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I. INTRODUCTION

The insurance sector in Botswana plays a crucial role in managing risks and contributing to the country's economic stability. However, small insurance brokers face numerous obstacles that impede their growth and sustainability. These brokers are essential for fostering market diversity and ensuring accessibility of insurance services to various segments of the population (Chen et al., 2019; Gupta & Sharma, 2021). Despite their importance, small brokers struggle with regulatory barriers, limited access to capital, technological gaps, and intense competition from larger firms (Lee & Wang, 2020; Kim & Park, 2018; Tan & Lim, 2017). This paper aims to explore these challenges in detail and propose strategic recommendations to support the sustainable growth of small insurance brokers in Botswana.

II. METHODS

This research employed an online questionnaire as the primary method to gather data from small insurance brokers operating in Botswana. The questionnaire was distributed to 50 small insurance brokers, with a response rate of 70% (Smith et al., 2023). Additionally, semi-structured interviews were conducted with 10 key stakeholders, including regulators and customers, to gain deeper insights into the challenges and potential solutions (Jones & Brown, 2022).

III. RESULTS AND DISCUSSION

The findings reveal that small insurance brokers in Botswana face numerous challenges across several dimensions:

1. Regulatory Environment and Compliance: 68% of surveyed brokers struggle with complex regulatory procedures and high compliance costs, which hinder their ability to compete effectively (Lee & Wang, 2020).
2. Market Structure and Competition: 80% of small brokers feel disadvantaged due to barriers to entry and a lack of a level playing field, favoring larger players (Chen et al., 2019).
3. Financial Constraints and Access to Capital: 72% experience limited access to capital, impacting their underwriting capacity and ability to secure reinsurance (Gupta & Sharma, 2021).
4. Technological Advancements and Digitalization: 60% struggle to keep pace with rapid technological advancements, affecting operational efficiency and customer engagement (Kim & Park, 2018).
5. Consumer Behavior and Perceptions: 75% of customers prefer larger companies, posing a significant challenge for small brokers to gain trust and market share (Tan & Lim, 2017).
6. Marketing Strategies and Branding: 82% lack resources for extensive marketing and struggle to establish strong brand identities (Wu & Chen, 2019).
7. Distribution Channels and Partnerships: 68% face constraints in forming partnerships and expanding their distribution networks (Li & Zhang, 2020).
8. Customer Service and Claims Processing: 70% strive to provide excellent service but are hindered by limited resources impacting claims processing efficiency (Liu & Hu, 2018).
9. Training and Expertise: 65% face challenges in accessing specialized training, limiting their ability to innovate and adapt (Wang & Li, 2019).

IV. CONCLUSION

This research highlights the significant challenges confronting small insurance brokers in Botswana. From regulatory complexities to limited access to resources and technology, these obstacles underscore the necessity for strategic interventions. The proposed recommendations, such as streamlining regulatory processes, exploring innovative financial solutions, embracing digital transformation, enhancing customer-centric strategies, and fostering strategic partnerships, offer actionable steps for small brokers to navigate these challenges effectively. The successful implementation of these strategies holds the potential to catalyze sustainable growth, enhance competitiveness, and contribute to a more robust insurance sector in Botswana.

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Entrepreneurship and poverty reduction; opportunities and challenges. A case study of Lusaka district of Zambia

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ABSTRACT

Purpose: The study was prompted by high poverty levels in Lusaka despite several poverty interventions in place.

Design/methodology/approach: Respondents for the study were drawn from beneficiaries of poverty reduction intervention through stratified random sampling and structured questionnaires were used. Descriptive statistics were employed with results indicating that 97% of respondents categorized themselves as poor. The reason provided for the status quo was inability to generate enough income for normal livelihoods.

Findings: An exploration was then done on the role of entrepreneurship with respective challenges and opportunities in increasing incomes and contributing to poverty reduction. Content analysis of literature was done and results highlighted major huddles to entrepreneurship development as access to finance challenges, undeveloped markets, lack of supportive infrastructure and low entrepreneurial competence. This was in the midst of favorable environment supporting the thriving of entrepreneurship.

Practical implications: Recommendations were to remedy identified challenges which if implemented, could lead to thriving entrepreneurship and poverty reduction.

Paper type: Research paper

Keywords: Poverty, Poverty Reduction, Entrepreneurship, Entrepreneurial Competence, Opportunities, Challenges.

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I. INTRODUCTION

Poverty is defined as a pronounced deprivation in well-being with the poor being defined as those who do not have enough income or consumption to put them above some adequate minimum threshold (World Bank). The concept of poverty has several definitions mainly because of its multidimensional and complex nature resulting in no universally agreed definition.

With regards to the Zambian case, the Living Conditions Monitoring Surveys (LCMS) consider an individual to be poor if he/she suffers some levels of economic and/or social deprivation. Though main forms of poverty determination are used, income deprivation is the most commonly used indicator to identify the poor. Many poverty assessments across the world use the Income Shortfall approach when measuring poverty as this concept directly relates to income deprivation (UN Statistics Division, 2005). According to the (LCMS,2015), the income shortfall approach is in many ways intuitively appealing since the ability to acquire nearly all basic human needs depends on the levels of income a household commands.

Poverty is one of the global challenges. As a result, poverty reduction and eradication has usually been the first item on the global agenda. This was highlighted during the Millennium Development Goals (MDGs) which ran from 2000 to 2015 whose goal was to halve the global number of people under poverty. Poverty is again on the global agenda through the Sustainable Development Goals (SDG) of the United Nations whose goal number one is to end poverty by 2030.

Zambia has been one of the countries which was committed towards the attainment of the MDGs but failed to meet the goal of halving the number of the poor by 2015. According to ZAMSTAT, poverty levels in Zambia during the MDGs implementation period, only reduced by 25.5% as opposed to 50%. Zambia is again part of the international community which have subscribed to the attainment of the SDGs. However, latest statistics according to ZAMSTAT, 2022, puts poverty levels in Zambia at 60% with only 6 years remaining before the SDGs come to an end. Poverty levels in Zambia have been raising instead of reducing. Poverty levels were at 54.4% in 2015 but rose to 60 % in 2022 (ZAMSTAT, 2022). This has been the case despite poverty reduction interventions put in place through the national development plans. The Seventh Zambian National Development Plan (7NDP), which ran from 2017 to 2021 highlighted unemployment and underemployment, limited access to finance, inadequate infrastructure, and limited access to social services and markets as the main causes of poverty in Zambia. From the cited causes of poverty, an exploration was carried out on how unemployment and underemployment could be addressed through the enhancement of entrepreneurship among the population.

The study therefore is an exploration of opportunities and challenges for enhancing entrepreneurship as a key driver in poverty reduction focusing on Lusaka district of Zambia. The study aimed at providing recommendations which could enhance entrepreneurship resulting in increased household incomes and reduction in poverty levels.

Entrepreneurship just like poverty has no universally accepted definition. Prince et al (2021) explains this phenomenon as due to the fact that entrepreneurship is studied from the perspectives of different disciplines such as economics, business, management, psychology and sociology whose scholars have all contributed definitions to the entrepreneurship literature resulting in varying ontological paradigms that underlie these different disciplines. Professor Howard Stevenson, the godfather of entrepreneurship studies at Harvard Business School, defines entrepreneurship as the pursuit of opportunity beyond resources controlled. Diandra & Azmy (2020) define entrepreneurship as a natural phenomenon in business which is part of business life. Just like there is no consensus on the definition of entrepreneurship, there is also no consensus on who the entrepreneur is. OECD (2012) define an entrepreneur as those persons (business owners) who seek to generate value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets. Entrepreneurship has however common terms regardless of the definition. Some of the common terms as highlighted by Gartner (1990) are innovation, organization creation, creating value, profit or nonprofit, growth, uniqueness and owner manager. Entrepreneurship has many benefits at different levels which could be categorized as financial as well as non-financial. Some of the benefits of entrepreneurship as highlighted by Luke et al (2007) are independence and autonomy, competitive advantage, increased market share, employment and increased standards of living, enhanced remuneration or rent from revenue, profits, cash flow, return on investment and increases in GDP among others.

Entrepreneurship therefore was expected to contribute towards resolving the challenge of poverty in Zambia and Lusaka district in particular. Of interest was poverty induced by unemployment and under employment resulting in households having incomes of below the poverty line. ZAMSTAT (2021) pegged the unemployment rate in Zambia at 13.8%. Lusaka province had the highest unemployment rate standing at 33.8%. The total employment rate was therefore 86.2%. However, despite higher employment rate, 73.2% of those employed were under informal employment, where there were not entitled to social security coverage and contracts in addition to annual paid leave, or any such entitlements. Most of these under informal employment together with the unemployed are living in poverty.

The study therefore focused on the possibility of entrepreneurship impacting on such a population by noting opportunities and challenges specifically for Lusaka province being a province with the highest unemployment rate. The objective of the study therefore was to explore possible challenges and opportunities for entrepreneurship to enhance employment creation and increased incomes which could have a direct impact on reducing high poverty levels in Lusaka district. This is at the backdrop of existing poverty reduction programs failing to achieve any impact as demonstrated by an increased in poverty levels despite such programs being in place.

II. METHODS

Mixed methods were used in the study through the use of semi structured questionnaires as well as through extensive review of relevant literature. The study therefore reported on both quantitative and qualitative parameters. The study was exploratory in nature and used cross sectional data as well as being a non-experimental design.

Questionnaires were administered to collect primary data from households in Lusaka district who were under the poverty reduction programs namely the Social Cash Transfer (SCT), Food Security Pack (FSP) and the Farmer

Input Support Program (FISP). The total population for the study was 44,273 out of which a sample of 78 respondents was drawn.

Cochran's formula was used in sample determination with selected parameters being 95% confidence level, 6% precision and 0.1 of estimated proportion. Stratified sampling was used to randomly pick respondents from each of the 33 Wards and 20 agriculture camps.

Primary data was imputed in JASP package for descriptive statistics. The assessments were mostly to determine the poverty status of respondents and reasons behind the status as well as reasons preventing such households to move out of poverty.

Since poverty in Zambia is measured using income deprivation as an indicator to identify the poor, entrepreneurship was assessed to determine its possible role in raising household income and possible contribution to poverty reduction. Respective challenges preventing the thriving of entrepreneurship in raising incomes for the poor households were also assessed. This was done through content analysis of secondary data collected from extensive literature review.

III. RESULTS AND DISCUSSION

Table 1: Summary of respondents' poverty status and reasons behind the status

<i>Poverty status</i>	<i>Number of respondents</i>	<i>Reasons given for the status</i>	<i>Percentage</i>
<i>None poor</i>	2	<i>Above the poverty rate</i>	3%
<i>Moderately poor</i>	42	<i>Lack of adequate household income</i>	55%
<i>Very poor</i>	9	<i>Lack of adequate household income</i>	12%
<i>Moderately poor</i>	5	<i>Inability to work on account of old age or differently abled</i>	7%
<i>Very poor</i>	4	<i>Inability to work on account of old age or differently abled</i>	5%
<i>Moderately poor</i>	15	<i>Lack of /not having enough capital to engage in income generating activities</i>	20%
<i>Very poor</i>	1	<i>Lack of /not having enough capital to engage in income generating activities</i>	1%
<i>Total</i>	78		

From table 1 above, it could be noted that 67% of respondents were poor because of lack of adequate household income. It is also noted that 21% of respondents cited lack of or not having enough capital to engage in income generating activities. These were respondents who were either already engaged in some entrepreneurial activity or where planning to commence some entrepreneurial activity but challenged with start up capital. It was however noted that 5% of the respondents were unable to engage in any entrepreneurial activity on account old age or being differently abled.

Overall, 97% of respondents mentioned of not having enough income to sustain their livelihoods as the main reason of categorizing themselves as poor. Only 3 % mentioned of being non poor.

In a country where good jobs are scarce with only 26.8% in formal employment (ZAMSTAT, 2021), it was anticipated that the majority should have focused on self-employment for sustenance. Self-employment makes up a large portion of those under informal employment. Informal employment currently stands at 73.2% in Zambia.

self-employment could be worthwhile if it was capable of pushing those undertaking them to above the poverty line. However, as highlighted in table 1 above, the respondents are unable to generate enough income to push them above the poverty line. This demonstrates the inability to take up viable entrepreneurial activities by most of the respondents. One of the key feature of an entrepreneurship undertaking is value creation. The created value should be able to appeal to the market resulting in income and profit to the entrepreneur and respective improvement in standard of living. This however, was not observed with respondents under the poverty reduction programs.

A. Challenges of engaging in entrepreneurship for Lusaka district.

A number of factors were found to have an effect on the development of entrepreneurship in Zambia and particularly in Lusaka district. Key factors highlighted in the Zambia Seventh National Development Plan (7NDP) which could have an effect on the performance of entrepreneurship were limited access to finance, inadequate infrastructure, and limited access to markets. The same factors were attributed to be behind high poverty levels. This paper therefore delved in these factors as the main challenges affecting performance of entrepreneurship in Zambia. The same factors were prominent in the reviewed literature. One other prominent factor from literature review was inadequate capacity to undertake a viable entrepreneurial activity. Details of the factors are discussed below;

1. Limited access to affordable finances

Limited access to finances to support some entrepreneurial activity was the major reason provided by respondents under the study as to why they had failed to move out of poverty. Some of the respondents were involved in some small-scale businesses but lacked capacity to upscale due to limited access to finances. Others were interested to start some entrepreneurial activity but lacked start up finances. Access to finances had been a challenge due to high cost of borrowing as well as demand for collateral by most financial institutions. The average lending rates from commercial banks stood at 26%, based on statistics from the Bank of Zambia, for the first quarter of 2023. Unless a business yield returns of 26% and above, failure to which it will not be viable due to high cost of borrowing/capital. Most institutions focus on lending to established businesses and to those in formal employment where salaries could be used as collateral for the loans. The majority of the poor, who were mostly in the informal sector, have no access to finance exacerbating their poverty status. This is because of their inability to source finances to support entrepreneurial activity. The situation for those in the informal sector and the unemployed is also made worse especially for the illiterate due to their inability to put up funds solicitation documents such as business plans.

Most studies on entrepreneurship and on the development of small and medium enterprises in Zambia mentioned limited access to finances as the major challenge. This was reflected by Nuwagaba (2015), Aurick et al (2017), Mwanga & Chewes (2016) as well as revised national micro small and medium enterprise development policy (2023) under the Ministry of small scale and medium enterprises.

2. Inadequate supportive infrastructure

For entrepreneurship to flourish, it requires some supportive infrastructure. Infrastructure is key for the delivery of goods or services produced by the entrepreneur as they are delivered to the final consumer. (Aurick et al 2017) reports that small enterprises in Zambia are largely in trading (49%), followed by simple manufacturing and services with (41%) and (10%) respectively. Basic infrastructure such as roads and markets are required to support entrepreneurs given that the majority are into trading. According to MSME policy (2023), Micro, Small and Medium Enterprise sector lacks systematically structured and developed business premises and infrastructure that can facilitate the development of individual enterprises so that they can have meaningful contribution to economic growth. The key infrastructure of interest being markets, industrial yards, incubation centres and economic zones that could play a critical role in the smooth operations of MSMEs. Lusaka district depend on fresh foods mostly from outlying areas surrounding Lusaka. Most of farm produce such as vegetables and grains are produced by small scale farmers who either supply to urban markets or supply to aggregators who deliver the produce to open markets in Lusaka. The produce from outlying areas are finally sold to consumers by small scale traders or marketeers in some markets dotted around the Lusaka city. Infrastructure such as roads play key role for such processes. Foster & Dominguez (2010) were able to observe that while 70 percent of Zambians depend on agriculture for their livelihood, only 17 percent of this population lives within 2 km of an all-season road. This statistic indicate that Zambian situation is about half the African average and that the condition of the existing rural networks were exceptionally poor with only 21 percent in good or fair condition. Apart from roads, appropriate storage is also vital to support entrepreneurs especially for perishable products. The shelf life of most perishable products is short due to none existence of appropriate storage facilities such as cold chains as products move from production areas to open markets dotted within Lusaka city.

3. Limited access to markets

Entrepreneurship involves value creation but this could only be worthwhile if the entrepreneur is able to get some value from the initiative. The value could be in form of profit. Most Zambian entrepreneurs are involved in trading, simple manufacturing and production of farm produce. However, market for most of the products is a challenge due to stiff competition. This is because most of the small and medium scale entrepreneurs tend to focus on similar enterprises resulting in high competition. World Bank data indicated the 57% of the total employed in 2022 where in the agriculture sector. However, most of the value chains for most agriculture products remain undeveloped constraining the market. This is due to limited value addition and industrial use for most of the agriculture products grown by small scale farmers. As a result, market for most produce has remained domestic without larger off takers of the produce apart from few agriculture products such as maize and soybeans.

4. Inadequate capacity to undertake viable entrepreneurial activity

Entrepreneurship entails the ability to capture existing opportunities and turning them into viable businesses. An entrepreneur is therefore expected to possess some skills necessary for them to carry out key activities. The notable characteristics are risk taking, decisiveness, persistence/perseverance and curiosity among others. Some of these entrepreneurial attributes could be learnt. In an event that an entrepreneur wants to source start up capital from financial institutions, it's a requirement to put up some fund solicitation documents such as a business plan. This therefore calls for some basic education on the part of the entrepreneur so that they are at least literate. However, with regards to most of the poor, though most of them could be literate, entrepreneurial competences are very low. Kawimbe (2024), attributed lack of entrepreneurship training as the leading cause of entrepreneurship failure. As a result, despite some possible existing potential in Lusaka district, few of such are taken advantage of due to low entrepreneurial competence. Low entrepreneurial competence is a big challenge even for the skilled labour. Most skilled labour focus on getting formal jobs as opposed to pursuing entrepreneurship. Lusaka has hundreds of thousands of trained labour in various skills who cannot find formal jobs. The majority of the trained labour have remained unemployed for a couple of years but are still unable pursue self-employment through entrepreneurship due to low entrepreneurial competence.

Though there could be other huddles stifling the thriving of entrepreneurship in Lusaka, the above are the major ones highlighted in the studies as well as in the national development plans.

B. Existing entrepreneurial opportunities in Lusaka district

Poverty in the midst of plenty had been the driving force behind the researcher's interest in this assessment. Zambia is endowed with abundant natural resources and has the land size of 752,612 square kilometres of which only 58 percent of total land area amounting to 39 million hectares is potentially good for agricultural production (LCMS, 2015). However, only about 1.5 million land hectares are currently being used for agriculture purposes (ZDA, 2023). Zambia boast of abundant water resources for irrigation due to numerous rivers and perennial streams and is said to account for 40 percent of the water resource in the SADC region. Zambia has also favourable climatic conditions which can support production of numerous crops as well as livestock. Apart from existing huge potential for agriculture, Zambia is endowed with mineral resources such as copper and cobalt as well as precious minerals such as emeralds and gold. From the time when Zambia earned independence in 1964, the country had generally experience peaceful environment and has not experienced any war or civil strife. The environment above was expected to be a recipe for economic development and wellbeing of citizens. However, reality indicate that 60 percent of Zambians are living in poverty.

From the abundant natural resources, a number of opportunities exists. The opportunities arise from utilization of the same natural resources namely arable land, trees and water bodies. Currently close to 60% of those employed in Zambia are in the agriculture sector taking advantage of abundant arable land resources as well as both underground and surface waters. Numerous entrepreneurial activities therefore exists focusing on exploitation of the natural resources. The opportunities in the utilization of natural resources are amplified due to the fact that Zambia and Lusaka are not self-sufficient in the production of some of the products and rely on imports from foreign countries. Supermarkets in Lusaka stock a number of agriculture products such as peanut butter, rice, fish, meat products, products processed from wheat, as well as fruits and vegetables among others from foreign countries.

Entrepreneurs can position themselves on different points of the value chains of viable agriculture products such as being primary producers, aggregators, processors, transporters, retailers, marketeers as well as input suppliers. Numerous opportunities also exist in trading of manufactured goods which could be sourced from local manufacturers or from imports. Some numerous opportunities also exist in the provision of numerous services apart from in the trading of goods.

Some business opportunities are evident as a result of perceived challenges such as unmet demands of some of the products and services warranting the services of entrepreneurs to take advantage sort out the identified challenges. Lusaka, just like other Zambian cities has numerous imported products, both food and non-food

products. Numerous opportunities exist to replace the imported products with the local ones provided entrepreneurs could strive to be more efficient to be competitive as well as to meet the required quality standards.

Opportunities are therefore many, such that if taken advantage off, it could contribute to the reduction of high poverty levels. Since the poverty reduction strategies put in place seem not to be yielding results as reflected by increase in poverty levels despite such interventions being in place, viable entrepreneurship should be promoted especially for the poor households. A number of recommendations should therefore be considered in enhancing entrepreneurship.

C. Recommendations on enhancing entrepreneurship in Lusaka district

1. Innovatively increase access to financing to the unemployed and the informal sector

Access to affordable finance for commencement or upscaling of entrepreneurial activities was highlighted in all studies as the biggest barrier to the development of entrepreneurship in Zambia and Lusaka. It is therefore recommended that the focus should be to strive and innovatively increase access to financing for entrepreneurial activities especially to the unemployed and those in the informal sector who make the majority of the poor. The Zambia Government spends millions of funds towards poverty alleviations and yet poverty levels have been going up instead of receding. The funds are usually spent on programs such as social cash transfers to the vulnerable members of the community as well as support for farming inputs to most of the small-scale farmers. However, recipients of all such interventions have remained in poverty with little hope of getting out of it. Though provision of finances for business and entrepreneurship development is usually the preserve of the private sector through lending institutions such as banks, the government should come in to focus on the underserved group of the unemployed and those in the informal sector. Therefore, poverty reduction packages should be innovatively looked at to incorporate entrepreneurship. Instead of just providing cash transfers or farming inputs, such funds spent for the purpose can be relooked at with a view of them being used as catalytic funds to spring up entrepreneurship among the target group. This could be by building capacity in entrepreneurial competences, enhancing efficiency such as productivity and market facilitation for produced goods and services. The poverty reduction funds should therefore be used to provide a package riding on entrepreneurship to move the target group out of poverty.

Current poverty reduction interventions focus on the vulnerable, who are provided with cash transfers and the farmers who are provided with farming inputs. Those considered under cash transfers are the differently abled and the aged. This leaves out a huge number of the poor particularly those in urban areas such as Lusaka who are unemployed or in the informal sector with no chance of being under any poverty reduction intervention. Ways of providing catalytic funding for this group should be explored through government intervention. This could be through supportive lending policies, public private partnerships, usage of public funds to provide collateral on behalf of selected entrepreneurs among others.

The government established the Citizen Economic Empowerment Commission (CEEC) to foster broad based economic empowerment to Zambian citizens through provision of loans. However, this has failed to address increased access to financing challenges especially to the informal sector and to the unemployed. This is because the commission focuses on the formal sector and deals with registered entities and also demand for collateral. This has resulted in favoring the part of the citizens, who could as well be funded through the commercial banks. The available funding under CEEC is also a drop in the ocean compared to the demand even among the formal sector. Access to finance for entrepreneurship development requires an overhaul approach with view of using it as a key element in the fight against poverty.

2. Address the infrastructure challenges hindering entrepreneurship development

Infrastructure plays a key role in facilitating entrepreneurship development and poverty reduction. This is because it plays a key role in the provision of an enabling environment for entrepreneurship to thrive. Among the notable key infrastructure requiring development are roads especially from high production areas, sources of power such as electricity, trading infrastructure such as markets, storage and cold chain facilities among others. Since the majority of those employed are in the agriculture sector, supportive infrastructure such as roads to high production areas should be worked on. This can reduce the cost of doing business resulting in the thriving of entrepreneurship and poverty reduction. The recommendation therefore is for the provision of public infrastructure which should be done after considering key entrepreneurial activities taking place in different locations of Lusaka district and challenges in terms of supportive infrastructure for such activities. Due to limited fiscal space in the provision of public infrastructure, infrastructure development should be targeted to promote catalytic entrepreneurship development unlike having blanket infrastructure development everywhere with some being white elephants.

3. Address the issue of market access for key commodities

Though 60% of those employed are in the agriculture sector, value chain of most agriculture products remains undeveloped. As a result, most of such products cannot enhance entrepreneurship and poverty reduction among the small-scale producers and other value chain participants. The overall demand for products from undeveloped value chains remain low due to the absence of large off takers of the products. This has resulted in limited markets and value for participants in such value chains. It is therefore recommended that deliberate efforts be made to develop value chains for most agricultural products. This could be through provision of enabling environment for potential products such as tax holidays, public private partnerships in the establishment of processing plants, provision of supportive infrastructure among others. Developing value chains of farm products can open up a number of avenues for small scale entrepreneurs to take advantage of different portions of the value chain to become a source of livelihoods and contributing to poverty reduction.

Most small scale entrepreneurs such as traders and marketeers in the streets and markets of Lusaka face stiff competition to sale their merchandise because most of them trade in similar goods as well as offer similar services. Capacity building in entrepreneurship could greatly help most of such small-scale entrepreneurs to have increased market access. This is because their ability to serve niche markets, business diversification and product differentiation will be enhanced by developed entrepreneurial competences resulting in increasing market access. Recommendation for public policy therefore is to enhance entrepreneurial capacity of the unemployed and those in the informal to enable them have increased access to the markets which could contribute towards poverty reduction.

4. To promote entrepreneurial competences for citizens

Entrepreneurial competence among citizens is very low. This has contributed to high poverty levels in Lusaka and Zambia because few people opt for self-employment. This is the case even for skilled personnel who are chasing few available formal jobs even in instances where the acquired skill is ideal for self-employment. As a result, hundreds of thousands of skilled personnel have remained unemployed for years after completing their studies in colleges and universities. Despite existing business opportunities in some locations, such are not taken advantage of, due to low entrepreneurial competence. This has exacerbated poverty levels due to the high number of the unemployed personnel who cannot take up the initiative of self-employment. It is therefore recommended that deliberate efforts be put in place to enhance capacity in entrepreneurial competences among the citizens. Curriculum in schools, colleges and universities should be structured in such a way to promote self-employment and entrepreneurship. More work in schools, colleges and universities should focus on mindset change so that students should not entirely focus on getting formal jobs after graduating but also to use the acquired skill to employ themselves. Increase in the number of citizens who are self-employed under viable entrepreneurship undertaking can greatly reduce poverty levels and unemployment.

IV. CONCLUSION

Entrepreneurship has potential to reduce high poverty levels in Lusaka district especially unemployment and underemployment induced poverty. Potential exists for entrepreneurship development but huddles exist as well with key ones being difficult to access affordable financing, poor infrastructure, undeveloped markets and low entrepreneurial competences. The recommendations therefore are to remedy such challenges which could result in thriving entrepreneurship and resolving of high poverty rate challenges. Poverty rates have been going up, despite poverty reduction intervention put in place.

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Relationship Between Absorptive Capacity and Innovation Ambidexterity: Mediating Role of Entrepreneurial Orientation

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ABSTRACT

Purpose: The literature in management sciences highlights the importance of entrepreneurial orientation as a lever to enhance productivity, competitiveness, and strengthen the position of companies. Globally, businesses are increasingly investing in developing their innovation capabilities to meet the demands of the digital economy and the "Smart Life" era. In this context, the absorptive capacity for knowledge, as well as the ambidexterity of exploration and exploitation, play crucial roles. However, current research does not yet clearly specify the causal links between these concepts. This study aims to determine how absorptive capacity influences innovation ambidexterity, considering the mediating role of entrepreneurial orientation.

Design/methodology/approach: Based on a positivist epistemological approach, this work relies on a literature review and the results of three exploratory studies. This leads to an explanatory model of the relationships between absorptive capacity and innovation ambidexterity, tested on 258 entrepreneurs and project holders in the ICT sector in Tunisia, operating within a "Smart City".

Findings: The results show that absorptive capacity enhances innovation ambidexterity, with a significant mediating role of entrepreneurial orientation

Paper type: Research paper

Keywords: Absorptive capacity, ambidexterity, innovation exploration, innovation exploitation, entrepreneurial orientation.

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I. INTRODUCTION

With the rapid evolution of digital technologies, the rise of the sharing economy, and globalized competition, companies face significant challenges, particularly in terms of innovation and adapting to changing consumer expectations. To meet these demands, they must not only explore new markets but also optimize the life cycles of their products and services.

The Internet of Things (IoT) emerges as a strategic lever to enrich the service offering by connecting physical and virtual objects. This perfectly aligns with the national strategy "Tunisia Digital 2025," which seeks to position Tunisia as a key player in this digital transformation. This plan promotes support for startups and encourages innovation. In this context, innovative entrepreneurship plays a fundamental role, especially in emerging economies, where it becomes a key factor for competitiveness and modernization. The "Startup Act" of 2018 in Tunisia has further consolidated this momentum by providing specific incentives for young companies, thus contributing to the emergence of a dynamic entrepreneurial ecosystem. Nevertheless, challenges remain, such as talent retention and the establishment of adequate infrastructure.

This study examines the relationship between absorptive capacity for knowledge and innovation ambidexterity (exploration and exploitation), highlighting the role of entrepreneurial orientation. This theoretical framework, still underexplored from this perspective, will be applied to the incubators of the "Smart City Elghazala" to better understand the concept of innovation and enrich the literature on entrepreneurial intermediation.

A. Literature Review

The literature review reveals a wide diversity of approaches to studying absorptive capacity for knowledge, innovation ambidexterity, and entrepreneurial orientation. This theoretical richness can, however, induce some confusion for researchers, but it also opens interesting perspectives for both theoretical and practical contributions.

1. Knowledge absorptive capacity

Absorptive capacity is an essential competence for companies, enabling them to leverage external knowledge to enhance competitiveness. According to Jansen and Data (2010), this capacity relies on two dimensions: exploration and exploitation. Several factors influence this capacity, including motivation, learning style, environment, and prior experiences.

Learning and cognition theories offer various perspectives on absorptive capacity:

1. Behavioral Theory: Focuses on rewards and punishments influencing learning.
2. Cognitive Theory: Emphasizes internal mental processes such as memory and problem-solving.
3. Constructivist Theory: Posits that learners actively construct their knowledge by combining new information with their past experiences.
4. Socio-Constructivist Theory: Highlights the importance of social interactions in the learning process.
5. Cognitive Load Theory: Explores the impact of cognitive load on working memory in the capacity to assimilate new information.

In short, knowledge absorptive capacity is a complex phenomenon influenced by internal and external factors. It can be optimized through adapted learning methods, allowing companies to better capitalize on their knowledge and innovate effectively.

2. Innovation Ambidexterity of Exploration and Exploitation

The literature review on innovation ambidexterity highlights the growing importance of this concept in management research. Innovation ambidexterity refers to the ability of organizations to simultaneously manage two types of activities: exploration, which involves seeking new ideas and opportunities, and exploitation, which focuses on optimizing existing resources and competencies. These two dimensions, although in tension, are crucial for ensuring competitiveness and sustainability in a constantly evolving environment.

a. Exploration and Exploitation Concepts

Exploration aims to innovate by developing new skills and opening up to new opportunities. It involves risks and experimentation to cope with uncertainty. In contrast, exploitation focuses on improving existing processes, efficiency, and maximizing available resources. These two activities, although contradictory, must be balanced for an organization to adapt to market changes while optimizing its current strengths.

b. Balance and Management of Tensions

Innovation ambidexterity requires careful management of tensions between these two poles. This dynamic balance is a constant challenge, as it may fluctuate according to market conditions and available resources. Companies must establish organizational structures that reconcile innovation and operational efficiency, while fostering a culture conducive to learning, risk-taking, and collaboration. Leadership plays a crucial role here, guiding the organization towards a vision focused both on short-term results and long-term growth opportunities.

c. Theoretical Perspectives

Innovation ambidexterity is studied through several theories, offering distinct conceptual frameworks:

1. Organizational Ambidexterity Theory: Argues that companies must structure their processes to promote both exploration and exploitation, a condition essential for long-term success.
2. Natural Selection Theory: Adapted from biological evolution, it suggests that organizations that balance exploration and exploitation survive and thrive in changing environments.
3. Dynamic Capabilities Theory: Emphasizes the need for companies to develop dynamic capabilities to adapt to uncertainty, with ambidexterity being a means of acquiring these capabilities.
4. Organizational Learning Theory: Views ambidexterity as a continuous learning process, where the company acquires new skills while optimizing existing resources.
5. Resource Management Theory: According to this approach, companies must judiciously allocate their resources between exploration and exploitation to maximize long-term value creation.

These theories provide complementary perspectives on managing innovation ambidexterity. By combining exploration and exploitation, organizations can not only innovate but also improve their operational efficiency, thereby ensuring their success in an increasingly competitive environment. Companies that can maintain this dynamic balance are better positioned to tackle challenges related to innovation and sustainable growth.

The literature review on innovation ambidexterity highlights several paradigms that provide conceptual frameworks for understanding how organizations manage the tension between exploration (seeking new opportunities) and exploitation (optimizing existing resources). Here is a synthesis of the main paradigms identified:

1. **Strategic Management Paradigm:** This paradigm emphasizes the importance of simultaneously integrating exploration and exploitation into organizational strategies. It focuses on how companies design their business models and management processes to innovate while maintaining operational efficiency.
2. **Learning Organization Paradigm:** This framework emphasizes continuous learning within organizations. It shows that to remain competitive, companies must explore new territories and learn from their experiences to quickly adapt to market changes.
3. **Dynamic Capabilities Paradigm:** This paradigm focuses on managing dynamic capabilities, allowing companies to develop new skills for exploration while leveraging their existing resources for exploitation.
4. **Organizational Evolution Paradigm:** Inspired by biological evolution, this framework explores how organizations evolve in changing environments. It stresses the need to find a balance between exploring new opportunities and exploiting current resources to survive and thrive.
5. **Resource Management Paradigm:** This paradigm examines how organizations allocate their resources between exploration and exploitation. It studies decision-making processes and control mechanisms that maintain an optimal balance between these two activities.

These paradigms provide complementary perspectives on managing innovation ambidexterity. By integrating them, researchers gain a more comprehensive and nuanced understanding of the complex dynamics underlying innovation within organizations.

3. Entrepreneurial Orientation

The literature review on entrepreneurial orientation highlights several theories and paradigms that help understand the attitudes, behaviors, and decision-making processes of entrepreneurs in various organizational contexts. Here is a summary of the main points:

a. Characteristics of Entrepreneurial Orientation

Entrepreneurial orientation (EO) refers to a set of attitudes and behaviors associated with value creation and innovation. It is distinguished by several key characteristics:

1. **Calculated risk-taking:** Entrepreneurs take thoughtful risks, weighing potential benefits against risks.
2. **Innovation and creativity:** Innovation is at the heart of EO, pushing individuals to propose novel solutions, while pushing the limits of the status quo.
3. **Flexibility and adaptability:** EO requires an ability to adapt quickly to market changes and adjust strategies according to circumstances.
4. **Vision, Perseverance, and Action:** Entrepreneurs have a clear vision and are proactive, acting quickly to bring their ideas to fruition while demonstrating perseverance in the face of obstacles.
5. **Teamwork and Networking:** Entrepreneurs know how to surround themselves with collaborators and leverage their networks to foster innovation.

b. Effects of Entrepreneurial Orientation

Studies show that EO has positive effects on organizational performance, particularly by stimulating innovation in complex and competitive environments (Wiklund, 2011). These effects are more pronounced in certain organizations, such as SMEs or young and innovative companies. EO also helps overcome organizational inertia, particularly in large companies, by promoting innovativeness, proactivity, and risk-taking (Covin, 1991).

c. Theories explaining entrepreneurial orientation

1. **Effectuation theory (Saras Sarasvathy):** Entrepreneurs make decisions in uncertain environments by using available resources flexibly to create new opportunities, rather than following rigid planning.
2. **Resource-based theory (Jay Barney):** Competitive advantage comes from specific, rare and inimitable resources, and EO helps to identify and exploit them in innovative ways.
3. **Causality theory:** Unlike effectuation, this theory emphasizes careful planning and analysis to achieve clearly defined objectives.
4. **Innovation theory (Joseph Schumpeter):** Entrepreneurs are agents of change who introduce new ideas and products, contributing to economic disruptions.
5. **Entrepreneurial alert theory:** Entrepreneurs are particularly sensitive to market opportunities, which they seize before others.
6. **Proactive Orientation Theory:** Entrepreneurs actively influence their environment rather than simply react to it.

d. Entrepreneurial Orientation Paradigms

- a. Economic Paradigm: The entrepreneur is seen as an engine of economic growth and wealth creation.
- b. Sociological Paradigm: Entrepreneurship is influenced by the social, cultural, and institutional factors in which entrepreneurs operate.
- c. Psychological Paradigm: This paradigm examines the personality traits, motivation, and cognition of entrepreneurs, such as risk tolerance.
- d. Behavioral Paradigm: It studies the behaviors and coping strategies of entrepreneurs when faced with challenges in their environment.
- e. Cognitive Paradigm: This framework explores how entrepreneurs perceive and interpret opportunities to make informed decisions.

Entrepreneurial orientation, through various theories and paradigms, offers a comprehensive approach to understanding how entrepreneurs create value, innovate, and make decisions. Whether in SMEs, large companies or start-ups, OE is proving to be a key lever for driving growth and performance, and researchers can gain a more nuanced understanding by combining economic, social and behavioural perspectives.

B. Role of Absorptive Capacity in Supporting Innovation Ambidexterity

1. Influence of Absorptive Capacity on Innovation Ambidexterity

Absorptive capacity, defined as the ability to acquire, assimilate, and exploit external knowledge, plays a crucial role in supporting innovation ambidexterity. Innovation ambidexterity refers to an organization's capacity to simultaneously balance the exploration of new ideas and technologies (radical innovation) with the exploitation of its existing resources and processes (incremental innovation). This balance is fundamental for maintaining the long-term competitiveness of businesses.

1. Exploration and Knowledge Acquisition: Organizations with high absorptive capacity are able to capture and integrate new external information, thereby facilitating the exploration of new markets and technologies.
2. Adaptability to Change: A strong absorptive capacity enhances firms' responsiveness to changes in the environment, thereby strengthening their agility in innovation.
3. Exploitation and Integration of Knowledge: The absorption of new knowledge allows for its effective integration into existing processes, thus enhancing operational performance and supporting exploitation activities.
4. Culture of Innovation: An organization with developed absorptive capacity is often associated with a culture of continuous learning, valuing collaboration and risk-taking—two essential aspects for fostering ambidexterity.

2. Relationship Between Absorptive Capacity and Innovation Ambidexterity

1. Increased Exploration: Firms with strong absorptive capacity are better positioned to innovate as they identify and exploit new opportunities from the external environment more quickly.
2. Knowledge Management: Ambidexterity, which requires the simultaneous management of exploration and exploitation activities, relies on an organization's ability to absorb, share, and effectively use knowledge.
3. Strengthening Exploitation: Effective management of existing knowledge, facilitated by strong absorptive capacity, allows for better utilization of internal resources, thereby reinforcing the balance between innovation and optimization.

3. Theories Supporting the Interaction Between Absorptive Capacity and Innovation Ambidexterity

1. Organizational Learning Theory: This theory suggests that absorptive capacities enable organizations to learn from their environment, promoting both the exploration of new opportunities and the exploitation of existing knowledge.
2. Resource-Based View (RBV): This perspective emphasizes the importance of absorptive capacity as a dynamic resource for creating sustainable competitive advantage. These capacities allow firms to combine new knowledge with their resources to support ambidexterity.
3. Organizational Ambidexterity Theory: This theory asserts that firms must manage both exploration and exploitation to remain competitive. Absorptive capacity facilitates this ambidexterity by integrating external knowledge while optimizing internal resources.
4. Natural Selection Theory of Organizations: Inspired by biological evolution, this theory illustrates how organizations adapt to changing environments. Organizations capable of absorbing and mobilizing new knowledge are better positioned to survive and thrive in uncertain environments, thus promoting ambidexterity.

The absorptive capacity for knowledge is a key factor in developing innovation ambidexterity. It enables organizations to innovate by exploring new opportunities while effectively exploiting existing resources.

Management theories, such as organizational learning and ambidexterity, underscore the importance of this capacity in knowledge management and maintaining a sustainable competitive advantage.

C. Impact Of Entrepreneurial Orientation On Innovation Ambidexterity

Entrepreneurial orientation, characterized by risk-taking, creativity, and opportunity-seeking, has a significant impact on innovation ambidexterity, which involves balancing the exploration of new ideas with the exploitation of existing resources. Here are the main axes of this influence:

1. Influence of Entrepreneurial Orientation on Innovation Ambidexterity

- a. Encouragement of Exploration and Risk-Taking: Entrepreneurial orientation stimulates the exploration of new ideas and opportunities, promoting radical innovation, which is essential for the "exploration" aspect of ambidexterity.
- b. Culture of Innovation: Entrepreneurial organizations cultivate a culture where creativity is valued and failure is viewed as a source of learning, facilitating ambidexterity by encouraging both exploration and exploitation of resources.
- c. Flexibility and Adaptability: Entrepreneurially oriented companies are more agile in response to market and technological changes, enhancing their ability to reconcile innovation with the optimization of existing processes.
- d. Long-Term Vision: A long-term entrepreneurial vision encourages investments in continuous innovation, ensuring sustainable development of ambidextrous capabilities.
- e. Autonomy and Responsibility: Entrepreneurial structures promote autonomy, allowing teams to engage simultaneously in exploration and exploitation activities.

2. Theories Explaining the Relationship Between Entrepreneurial Orientation and Innovation Ambidexterity

- a. Entrepreneurship Theory: This theory links entrepreneurial orientation to innovation, highlighting that entrepreneur are change agents, fostering exploration of new opportunities while effectively exploiting existing resources.
- b. Resource and Capability Theory: Entrepreneurial orientation is viewed as an organizational capability that enables the mobilization of necessary resources for innovation, thus supporting ambidexterity.
- c. Organizational Learning Theory: Entrepreneurial orientation creates an environment of continuous learning, stimulating the exploration of innovative ideas while reinforcing the exploitation of acquired knowledge.
- d. Organizational Evolution Theory: This approach posits that entrepreneurial orientation helps organizations adapt to market changes, thereby enhancing their capacity to combine exploration and exploitation.

Entrepreneurial orientation promotes innovation ambidexterity by encouraging risk-taking, exploration, adaptability, and long-term vision. Organizations adopting this approach develop a culture of innovation that is essential for balancing the exploration of new opportunities with the optimization of existing resources. Management theories emphasize that this orientation enhances organizations' ability to remain competitive and innovate sustainably.

II. METHODS

The conceptual framework of this study is based on an in-depth literature review to formulate research hypotheses and propose an innovative conceptual model. This model explores the links between knowledge absorption capacity, entrepreneurial orientation, and innovation ambidexterity.

The formulated hypotheses are as follows:

H1: Knowledge absorption capacity positively influences innovation ambidexterity.

H2: Entrepreneurial orientation is positively correlated with innovation ambidexterity.

H3: Entrepreneurial orientation plays a mediating role in the relationship between knowledge absorption capacity and innovation ambidexterity.

These hypotheses highlight the key role of entrepreneurial orientation as a mediator between knowledge absorption capacity and innovation ambidexterity. This theoretical framework thus allows for the construction of a new conceptual model that connects knowledge absorption capacity to innovation ambidexterity (exploration and exploitation) through entrepreneurial orientation.

The model emphasizes the importance of integrating entrepreneurial orientation as a strategic lever to maximize the impact of knowledge absorption on the capacity of companies to innovate while optimizing their existing resources.

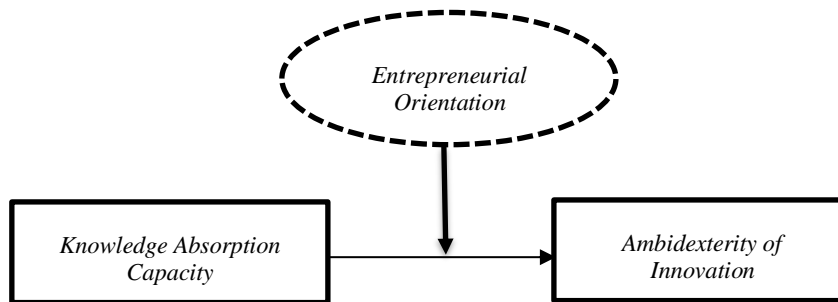


Figure 1 Conceptual model linking absorptive capacity to exploration and exploitation innovation ambidexterity through entrepreneurial orientation.

The study is based on a conceptual framework aimed at examining the causal relationships between several explanatory variables and innovation ambidexterity (IA). To make these theoretical concepts more concrete and validate the hypotheses through empirical data, the second part of the study adopts a holistic methodological approach, combining qualitative and quantitative methods, with a predominance of quantitative data.

Initially, a qualitative exploratory phase was conducted through interviews with 15 key stakeholders from the "Smart City" innovation ecosystem. These stakeholders included 5 innovation experts, 5 project leaders, and 5 startups/SMEs.

The objective was to gather perceptions on innovation ambidexterity as well as its organizational and relational triggers. The main phase, of an empirical nature, relies on a quantitative survey conducted with 258 innovative companies in Tunisia. A questionnaire was used as a data collection tool, and the variables of the conceptual model were measured using validated instruments from the literature.

To analyze the data, a structural equation modeling method (AMOS) was employed to test the research hypotheses. The first step involved conducting simple regressions with AMOS 25.0, followed by a global test of the model using structural equations. This approach allowed for the validation of the proposed causal relationships in the conceptual model, thereby providing a solid empirical foundation for the study.

In summary, this research is based on a rigorous methodology, combining exploratory qualitative analyses and robust quantitative tests to validate the hypotheses. It contributes to a better understanding of innovation ambidexterity and its determining factors.

III. RESULTS AND DISCUSSION

The results underscore the importance of intermediaries, such as innovation experts, in facilitating the acquisition and utilization of knowledge, thus validating Hypothesis 1 regarding the positive influence of absorptive capacity (AC) on innovation ambidexterity (IA). They also confirm that AC acts as a catalyst for innovation and corporate performance, particularly by facilitating the combination and transformation of external knowledge into new ideas and innovations.

Furthermore, the analyses show that knowledge assimilation is a key factor in fostering innovation, corroborating the works of Daghfous (2004) and Chauvet (2004), which assert that companies must have mechanisms to learn and exploit knowledge, essential conditions for organizational innovation.

Finally, the results reinforce the idea that ambidexterity is linked to the simultaneous management of exploration and exploitation activities, supported by a strong absorptive capacity. The most competitive companies are those capable of combining these three dimensions to innovate effectively, thereby validating the final hypothesis that AC stimulates innovation ambidexterity.

1. Summary of Results on the Mediating Roles of Entrepreneurial Orientation, Innovativeness, Risk-Taking, Proactivity, Autonomy, and Competitive Aggressiveness

a. Entrepreneurial Orientation (EO)

The study highlights the complex interaction between absorptive capacity, entrepreneurial orientation, innovativeness, risk-taking, proactivity, autonomy, and competitive aggressiveness. Each of these dimensions plays a key role in the innovation process, enabling Tunisian companies to navigate a constantly evolving

environment more effectively. The results emphasize the importance of adopting an integrated approach to foster innovation and ambidexterity within organizations.

The findings highlight the essential role of intermediaries, such as innovation experts, in the acquisition and exploitation of knowledge. This validates Hypothesis 1, which posits a positive influence of absorptive capacity (AC) on innovation ambidexterity (IA). Moreover, it is confirmed that AC acts as a catalyst for innovation and corporate performance by facilitating the transformation of external knowledge into new ideas and innovations.

The analyses also show that knowledge assimilation is a key factor in encouraging innovation. These results corroborate the work of Daghfous (2004) and Chauvet (2004), which state that companies must have learning and knowledge exploitation mechanisms, conditions essential for organizational innovation.

Finally, the results strengthen the idea that ambidexterity relies on the simultaneous management of exploration and exploitation activities, supported by a strong absorptive capacity. The most successful companies are those that manage to combine these three dimensions, thereby validating the hypothesis that AC stimulates innovation ambidexterity.

2. Summary of Results: Mediating Roles of Entrepreneurial Orientation, Innovativeness, Risk-Taking, Proactivity, Autonomy, and Competitive Aggressiveness.

1. Entrepreneurial Orientation (EO)

The results show that entrepreneurial orientation serves as a partial mediator between AC and innovation ambidexterity. This means that, while AC directly influences IA, EO enhances this relationship by adding a more agile and adaptable dimension. Tunisian companies must adopt a strong entrepreneurial orientation to navigate the digital economy effectively. Entrepreneurs, being proactive, autonomous, and willing to take risks, stimulate innovation, in line with the work of Huang and Wang (2011).

2. Innovativeness

Innovativeness emerges as another key mediator in the relationship between AC and IA. It reflects an organization's commitment to innovation, which is particularly relevant in a context where Tunisian entrepreneurs face financial and legislative constraints. The results show that exploratory innovations are desired but require a favorable working environment and competent human resources. The importance of creating an environment conducive to innovation is thus highlighted, and companies must adopt a management culture that encourages change and creativity.

3. Risk-Taking

Risk-taking is identified as another crucial mediator, directly influencing companies' ability to innovate. In the face of uncertainties and competitive pressures, Tunisian entrepreneurs must adopt a proactive attitude and be willing to take calculated risks. The results demonstrate that managing risk-taking is essential for maintaining ambidexterity, particularly in an uncertain economic context.

4. Proactivity

Proactivity, defined as the ability to anticipate market needs and innovate accordingly, is also a key factor. Companies that foster a proactive culture, where new ideas can emerge, are better positioned to innovate and adapt to changes. Proactivity is perceived as a crucial driver of EO, enabling companies to outpace competition and respond to new opportunities swiftly and effectively.

5. Autonomy

Autonomy within teams, particularly in research and development departments, proves crucial for stimulating innovation. The results show that employee autonomy fosters both ambidexterity and creativity. Therefore, companies must provide a work environment that allows their employees to freely explore new ideas without being subject to excessive constraints, thereby encouraging experimentation and innovation.

6. Competitive Aggressiveness

Competitive aggressiveness appears as a determining factor in innovation projects. Companies must be ready to respond to the challenges posed by competition while using innovation as a lever for adaptation and learning. The results show that innovation projects must be designed to address competitive pressures while being proactive in introducing new offerings to the market.

In conclusion, this study highlights the complex interaction between absorptive capacity, entrepreneurial orientation, innovativeness, risk-taking, proactivity, autonomy, and competitive aggressiveness. Each of these dimensions plays a fundamental role in the innovation process, enabling Tunisian companies to better navigate a constantly evolving environment. The results illuminate the importance of an integrated approach to stimulate innovation and ambidexterity within organizations.

IV. CONCLUSION

This article highlights the crucial interconnection between absorptive capacity, innovation ambidexterity, and entrepreneurial orientation within organizations, particularly in the context of Tunisian SMEs operating in the information and communication technology (ICT) sector and startups. Absorptive capacity emerges as a fundamental lever, strengthening entrepreneurial orientation, which in turn promotes both balanced and effective innovation ambidexterity.

The results of this research emphasize the importance of a dynamic corporate culture centered on entrepreneurship to fully exploit the potential for innovation. By integrating this entrepreneurial orientation and adopting a proactive stance, companies can overcome the obstacles encountered when implementing innovative projects. Risk-taking, proactivity, and competitive aggressiveness prove to be essential mediators, facilitating the transformation of acquired knowledge into tangible innovative actions.

It is imperative for sector stakeholders to cultivate a proactive entrepreneurial spirit, supported by skilled human resources, agile collaboration, and a commitment to continuous learning. This involves implementing training and support initiatives for future entrepreneurs, as well as increasing the visibility of success stories in the media.

Finally, this study demonstrates that the synergy between absorptive capacity, entrepreneurial orientation, and innovation ambidexterity is not only essential for the competitiveness of Tunisian SMEs but also for their resilience in the face of the challenges posed by a constantly changing business environment. By adopting a strategy that integrates these dimensions, organizations can not only foster innovation but also ensure their sustainability and success in a dynamic market.

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The Effect of Value Co-Creation, and Corporate Image on Building Customer Loyalty Toward Apartment Contractor: The Mediating Role of Customer Satisfaction

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ABSTRACT

Purpose: The purpose of this study is to create strategy for apartment contractors to build loyalty of apartment developer by examine customer satisfaction as mediator between corporate image, vccreation with customer loyalty in the Indonesia apartment construction industry.

Design/methodology/approach: Current study is conducted in the apartment construction industry in Indonesia. The population for this study is apartments developer in Indonesia. To accomplish main purpose, the data were collected from project managers of apartment developer firms in Indonesia. Online questionnaires were distributed and total of 316 respondents' data were collected and analysed. Respondent data was processed using SmartPLS for hypothesis testing.

Findings: The results shows that customer loyalty significantly influenced by their satisfaction, corporate image, and vccreation. The result also reveals that customer satisfaction mediate the relationship between corporate image, vccreation and with customer loyalty. Furthermore, the research results also found that corporate image, vccreation and positively influence satisfaction.

Paper type: Research paper

Keywords: *Customer Loyalty, Customer Satisfaction, Corporate Image, Co-Creation, Apartments Construction.*

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I. INTRODUCTION

The construction industry is an essential industry for a country, where the construction industry is a major contributor to the economic and social development of a country (Niazi & Painting, 2017). In Indonesia, the construction sector contribute a substantial amount in the Indonesian economy, where the construction sector contributes approximately 10.44% of Indonesia's gross domestic product (GDP) or Gross Domestic Product (GDB) (Kusnandar, 2022). The apartment construction industry in Indonesia is one of the most promising sectors within the construction industry, driven by the country's population growth and increasing demand for residential housing (ARCADIS Indonesia, 2019). Even during the COVID-19 pandemic, the apartment sector is one of the sectors that is showing a rapid recovery in demand in 2023 (Grahadyarini, 2023). The potential of the apartment construction sector also supported by the high population in Indonesia and high urbanization in Indonesia. Apartment construction projects in Indonesia are carried out by developer companies, where in the process the developer appoints a contractor company to work on apartment projects (Budiman, 2022). The rapid growth of the apartment construction industry accompanied by intense competition, requiring companies in the apartment construction contracting sector to adopt effective strategies to secure loyalty from apartment developers and maintain a competitive edge. Customer loyalty is an important asset for companies operating in the business 2

business or B2B industry to be able to compete in a competitive and developing industrial environment (Kittur & Chatterjee, 2021), thus apartment contractor need to focus on building customer loyalty from apartment developer in their strategy to excel in the apartment construction competitions.

Customer loyalty is an important strategies for companies operating in the B2B industry (Kittur & Chatterjee, 2021). Several academic studies pointed out that a satisfied customer will predict their loyalty toward a certain brand in B2B businesses (Almomani, 2019; Opata et al., 2021). The main goal for business strategy is to ensuring customer loyalty and satisfaction, because customer satisfaction will predict customer loyalty (Ruiz-Martínez et al., 2019). In the academic world, the relation between satisfaction and customer loyalty is widely proved in multiple B2B industries (Almomani, 2019; Gaudenzi et al., 2021; Hai et al., 2021; Hariandja & Vincent, 2022; Nasution, 2024; Woratschek et al., 2020), this research proposes the customer satisfaction as a predictor for customer loyalty of developer toward apartment contractor. This research uses stimulus organism response or SOR theory to analyze the relationship between customer satisfaction and customer loyalty. SOR theory is used considering that several previous studies used the basis of SOR theory to explain the relationship between customer satisfaction and customer loyalty (Ahanger et al., 2023; Lusianingrum & Pertiwi, 2023). SOR theory in the context of the multi-storey apartment building construction industry with customer satisfaction from the developer as the organism, customer loyalty from the developer as the response, and stimulus taken from the contractor company side which has an influence in shaping the organism and response from the developer company.

Corporate image is one of the company's strategic assets which acts as one of the company's competitive advantages in achieving customer loyalty (Özkan et al., 2020). Several academic researcher prove the important role of corporate image in various industries (Gelderman et al., 2021; Özkan et al., 2020). This research proposes corporate image as a stimulus in forming customer loyalty. In building good relationships, companies cannot view customers only as passive recipients, but companies must consider the value of co-creation or VCC where the company treats customers as partners, co-creators in working together (Sales-Vivó et al., 2021). Several previous research have provide empirical proved regarding the effect of corporate image, value co-creation or vccreation on customer loyalty in the context of business to business or B2B industries (Gelderman et al., 2021; Kwiatek et al., 2020; Sales-Vivó et al., 2021), but academic research which studied the influence of corporate image, and vccreation in forming customer loyalty of apartment developer toward contractor is still relatively small, so this is one of the gaps that is filled through this research. From these considerations, this research proposes corporate image, guanxi and value co-creation as stimuli in building satisfaction and loyalty.

In academic literature, customer satisfaction not only acts as a predictor of customer loyalty but also acts as a mediator of customer loyalty. Previous research provides empirical evidence of the significant mediation role of satisfaction toward customer loyalty (Dehghanpouri et al., 2020; Kaura et al., 2015; Khan et al., 2022). There is also research on the mediating role of customer satisfaction between relationships and customer loyalty (Khan et al., 2022). However, there are still few studies that address the mediating role of customer satisfaction on corporate image and value co-creation with customer loyalty in the context of the B2B industry, and even fewer research that examine customer loyalty of apartment developers toward contractor, so this is a gap in the academic literature. The novelty and main problem of this research is to fill the gap in academic literature by examining the mediating role of customer satisfaction between guanxi, corporate image and value co-creation with customer loyalty in the context of the apartment construction industry.

A. Literature Review

1. Customer Satisfaction

The customer satisfaction for the service and retail industry context is based on expectancy-disconfirmation theory (R.L, 1997). The expectancy-disconfirmation theory is a theory from psychology which states that individual satisfaction with a product is based on their evaluation of the product, where the evaluation is an evaluation of their expectations from the product compared to their experience when using or feeling the product.(Oliver, 1980). Customer evaluations in the expectancy disconfirmation theory are measured using a scale of "better or worse than expectations", where in a psychological construct/form, the result of this perceived evaluation is subjective disconfirmation (Oh, 1999). Consumer decisions in customer satisfaction are influenced by good or bad evaluations from consumers based on their comparison between experiences and their expectations (Nisar & Prabhakar, 2017).

Customer satisfaction will predict customer loyalty so it is no secret that satisfied and loyal customers are the main goal of business strategy (Ruiz-Martínez et al., 2019). In the academic world, the influence of satisfaction on customer loyalty is a strong topic that is widely empirically researched in various B2B industries (Almomani, 2019; Gaudenzi et al., 2021; Hai et al., 2021; Hariandja & Vincent, 2022; Nasution, 2024; Woratschek et al., 2020). Sun et al., (2020) states that vccreation has a significantly forming consumer loyalty towards banks that carry out CSR. Research from Gaudenzi et al., (2021) proves the effect of satisfied customers on their loyalty on

food companies' loyalty in the B2B food company in Italy. Seeing that the apartment construction industry is a B2B business, this research proposes the customer satisfaction as a antecedent for customer loyalty toward apartment contractor as hypotheses 1.

Hypotheses 1. customer satisfaction significantly influences their loyalty towards apartment contractors.

2. The SOR Theory

This stimulus organism response or SOR theory is used as framework considering that several previous studies used the basis of SOR theory to understand better the relationship between satisfaction - loyalty in consumers mind (Ligaraba et al., 2023; Molinillo et al., 2021). SOR theory in the context of the multi-storey apartment building construction industry with customer satisfaction from the developer as the organism, customer loyalty from the developer as the response, and stimulus taken from the contractor company side which has an influence in shaping the organism and response from the developer company. Research from Wu & Li, (2018) uses SOR to analyze online loyalty in an online social commerce. Research from Hsu et al., (2021) and research from Yu et al., (2021) uses the S-O-R theory to examines consumer behavior regarding satisfaction and loyalty as a response. Seeing that SOR theory is a theory that is widely popular in studying consumer loyalty behavior in various industries, but only a few research that have used SOR theory to study customer loyalty in the apartment construction industry. Therefore, this study uses SOR Theory as framework.

3. Value Co-Creation

Good relationship networks with customers are a potential way to improve construction company performance and become a platform for sustainable strategies (Lau & Rowlinson, 2009). In building good relationships, companies cannot view customers only as passive recipients, but companies must consider the value of co-creation or vccreation where the company treats customers as partners, co-creators in working together (Sales-Vivó et al., 2021). Vccreation is a concept formed based on service-dominant logic (SD logic) as its foundational idea. Vccreation asserts that in the relationship with customers, they should not be seen as passive parties in the relational process but rather as active actors who play an active role in the process of co-creating value together. (González-Mansilla et al., 2019; Vargo & Lusch, 2004). vccreation views customers not only as passive parties in business relationships, but customers are seen as active parties who participate in the business process by exchange knowledge and other resources (Opata et al., 2021; Vargo & Lusch, 2004; Xiao et al., 2020). According to Prahalad and Ramaswamy (2004). According to Minkiewicz et al., (2014), co-creation is defined as an experience created by customers through active participation in activities, involvement and personalization of vccreation experiences. Prior study provide empirical evidence that vccreation have impact on creating loyalty (Dewarani & Alversia, 2023; Firdaus et al., 2023; Iglesias et al., 2020; Xu et al., 2021). Thus, this research proposes vccreation as one of the predictors that lead to customer loyalty.

Hypotheses 2. Vccreation positively related to the customer loyalty towards apartment contractors.

4. Corporate Image

Corporate brand image is one of the company's strategic assets which acts as one of the company's competitive advantages in achieving customer loyalty (Özkan et al., 2020). Corporate image is one of the key assets that serves as a source of competitive advantage for a company, as it is an intangible business asset that is not easily replicated by competitors. (Alam & Noor, 2020). One definition of corporate image is the perception of the brand image in the consumers mind which is formed based on the totality of impressions from all aspects of the company (Han et al., 2019). Consumer perceptions in the form of company impact have a significant influence in forming and maintaining consumer loyalty and satisfaction, as proven in previous empirical research (Alam & Noor, 2020; Arrivabene et al., 2019; Gelderman et al., 2021; Özkan et al., 2020). Research by Alam & Noor, (2020) also provides results that confirm that Y generation loyalty on superstores in Bangladesh is positively and significantly influenced by its brand image. This research proposes corporate image as a stimulus in forming customer loyalty.

Hypotheses 3. Corporate image positively influences toward customer loyalty towards apartment contractors.

The influence that customer satisfaction has on their loyalty has been widely proven in academic research (Almomani, 2019; Gaudenzi et al., 2021; Woratschek et al., 2020). Beside that, customer satisfaction has also been proven to play a mediating variable toward loyalty, one example is how customer satisfaction mediates corporate image with loyalty (Abbas et al., 2021; Jamshidi & Rousta, 2021), several prior studies also provide empirical finding of customer satisfaction mediate the corporate image, and vccreation with their loyalty (Hayati et al., 2020; Jamshidi & Rousta, 2021; Khan et al., 2022; Naqvi et al., 2020). From these considerations, this research proposes customer satisfaction positively mediate the relationship between corporate image, and vccreation and loyalty.

Hypotheses 4. customer satisfaction positively mediates between vccreation and customer loyalty from developers towards apartment contractors.

Hypotheses 5. customer satisfaction positively mediates between corporate image and customer loyalty from developers towards apartment contractors.

Of the five hypotheses formed, the framework model for this research is presents in Figure 1.

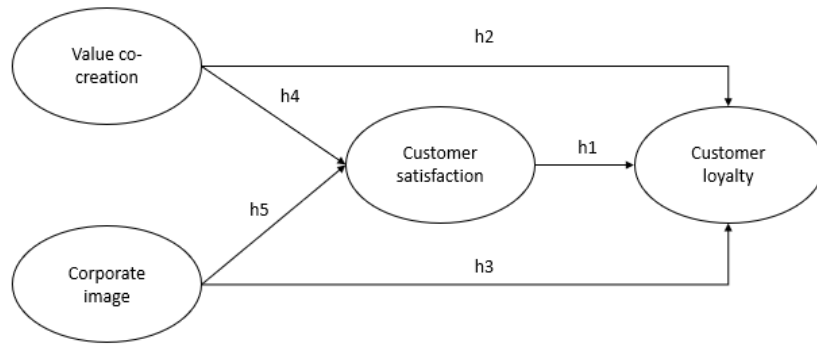


Figure 1. Research model

II. METHODS

Regarding methodology, the statistical approach used to analyze is structured equation modeling partial least squares or SEM-PLS, while the tool used for statistical analysis is SmartPLS.

The population for the subject on this research is developer companies which has constructed apartments projects in Indonesia. The sampling time approach that used is a cross sectional design, where the collections happen from October until December 2023. The collection process of respondent data was done by using Google forms. The language that were used in this questionnaire is Indonesian, because Indonesia is the daily language used by the respondent population, making it easier to fill out the questionnaire. This research conducts a pilot study with 30 respondenttas before collecting data, the pilot study conducted to test whether there are any difficulties in filling out the questionnaire and do the respondents understand the meaning of the questions. After data collection, the first analysis is descriptive which is outlined in table 1.

Table 1. Respondents Demography

Classifications	numbers
<i>Gender</i>	
<i>Male</i>	291
<i>Female</i>	25
<i>Age</i>	
20 – 30	
31 – 40	17

<i>Classifications</i>	<i>numbers</i>
41 – 50	120
51 - 60	125
>61	44

The data in Table 1 shows that the majority of respondents are from 51 until 60 years, namely 40.85 percent or 125 respondents, followed by respondents with an age of 41 until 50 years with 39.22% or 120 respondents. Meanwhile, there were 14.38% or 44 respondents aged more than 60 years, then 5.56% of the respondents or 17 respondents age are within range of 31 – 40 years. The most of respondents were male with 291 respondents or 92% of the respondents, while female were accounted of 7.91% of the respondents as mentioned in Table 1.

All variables in the research model are measured with indicators adapted from previous research that have been tested and are relevant to the research.

The measurement of the customer loyalty variable uses previous study done by Kittur and Chatterjee (2021), and Zhang and Li (2019) which relevant to the B2B industry (Kittur & Chatterjee, 2021; Zhang & Li, 2019). The measurement of the customer satisfaction variable was adapted using indicators that used in several prior study that are relevant to the B2B industrial context, such as Gligor et al (2020), and Kittur and Chatterjee (2021) (D. Gligor et al., 2020; D. M. Gligor & Maloni, 2022; Kittur & Chatterjee, 2021). The corporate image was measured using indicators from study by Alam and Noor (2020), and Balmer et al (2020), which their study relevant with B2B context (Alam & Noor, 2020; Balmer et al., 2020). The measurement of the vccreation uses prior study by Iglesias et al (2020), Sales-Vivó et al., (2020), and Sun et al (2020) (Iglesias et al., 2020; Sales-Vivó et al., 2021; Sun et al., 2020). Questions from the questionnaire can be seen in the appendix.

III. RESULTS AND DISCUSSION

A. Results

This section explains the results of statistical tests carried out on research data and models using SmartPLS v3.2.7. The and customer loyalty variables from this research are higher order constructs with a reflective-reflective type (Sarstedt et al., 2019). The analysis was carried out with reference to journals from Hair et al (2017), where the analysis process with SEMPLS is divided into 2 parts, namely the outer model or confirmatory factor analysis stage, and path analysis or structural analysis. (Hair Jr. et al., 2017). The preliminary stage of the CFA involves doing a factor loading study. The loading value demonstrates the magnitude of the correlation or association between the indicator and its latent construct, and the loading indicator is ideally set at 0.7 (Hair Jr. et al., 2017). If indicator falls below this recommended value, it suggests a lack of validity in the indicators. The subsequent phase in the CFA process involves assessing the degree of convergent validity, which pertains to the extent to which each item underlying a variable succeeds in converging to clarify the validity of the variable. This stage was evaluated by employing the average variance (AVE) metric, which ideally set at 0.5. Subsequently, the evaluation of internal consistency reliability is conducted by the utilisation of composite reliability analysis, commonly referred to as CR. According to relevant criteria, CR values that surpass 0.7 are often deemed satisfactory. The table 2 displays the outcomes of the statistical examination conducted on the loading factors, EVA, and CR.

Table 2. CFA

	<i>Items</i>	<i>Loading factor</i>	<i>AVE</i>	<i>CR</i>
<i>Value Co Creation</i>	<i>vccreation1</i>	0.926	0.848	0.965
	<i>vccreation2</i>	0.943		

	<i>vccreation3</i>	0.951		
	<i>vccreation4</i>	0.940		
	<i>vccreation5</i>	0.840		
<i>Customer Loyalty</i>	<i>CL1</i>	0.881	0.764	0.951
	<i>CL2</i>	0.715		
	<i>CL3</i>	0.899		
	<i>CL4</i>	0.920		
	<i>CL5</i>	0.913		
	<i>CL6</i>	0.926		
<i>Customer Satisfaction</i>	<i>CS1</i>	0.966	0.925	0.980
	<i>CS2</i>	0.957		
	<i>CS3</i>	0.965		
	<i>CS4</i>	0.959		
<i>Corporate Image</i>	<i>CI1</i>	0.945	0.862	0.969
	<i>CI2</i>	0.916		
	<i>CI3</i>	0.944		
	<i>CI4</i>	0.902		
	<i>CI5</i>	0.936		

The aforementioned in Table 2, the loading factor findings indicate that all items score over 0.7, hence signifying the validity of all items in assessing the hidden variable under consideration. Subsequently, the research model's EVA value also exhibits a magnitude over 0.5, indicating that all latent construct possess commendable convergent validity. The aforementioned table further demonstrates that all CR values surpass 0.7, so indicating that all latent construct exhibit commendable levels of internal reliability.

The last phase entails assessing discriminant validity. discriminant validity is used to prove that each latent variable in the research is empirically different from one another. The rule of thumb for discriminant validity to be called good if the value of the square root of AVE in the correlation of each construct is the greatest compared to the correlation with other. the results of the discriminant validity calculation can be seen in Table 3.

Table 3. Discriminant Validity Results

	<i>corporate image</i>	<i>loyalty</i>	<i>satisfaction</i>	<i>value co-creation</i>
<i>corporate image</i>	0.919			
<i>loyalty</i>	0.686	0.884		
<i>satisfaction</i>	0.645	0.683	0.972	
<i>value co-creation</i>	0.648	0.698	0.619	0.921

The Table 3 shows that the value of each variable with its own variable is the greatest compared to the correlation of other variables, so the valid discriminant of the model is good, where each variable is empirically different.

The second stage of SEMPLS analysis begins with analysis of the coefficient of determination. This phase describes the level to which the variance of the dependent latent variable influenced by the independent variables that related to it. The calculation analysis uses R square, and the calculation results are delivered in Table 4.

Table 4. R Square result

<i>Dependent Variables</i>	<i>R squares</i>
<i>Customer loyalty</i>	0.616
<i>Customer satisfaction</i>	0.484

The Table 4, exhibits a 0.626, signifying that 62.6% of the variance in the customer loyalty can be accounted for by the influencing variables. As for R-square value of customer satisfaction is 0.494 means that 49.4% of the variation can influenced by the underlying factors that have relation to it.

The next phase is doing the structural model examination. The commencement of this hypothesis test involves the generation of 5,000 resamples using the procedure of bootstrapping through SmartPLS. The calculation results of the path computation are displayed in Table 5 and Figure 2.

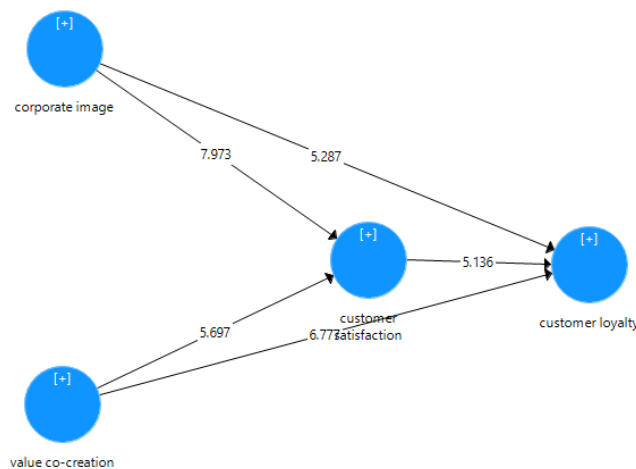


Figure 2. Structural Path Test Result

Table 5 Structural Path Test Result

<i>Hypotheses</i>	<i>Path coefficient</i>	<i>T-values</i>	<i>P-values</i>
<i>H1. customer satisfaction → customer loyalty</i>	<i>0.265</i>	<i>5.136</i>	<i>0.000</i>
<i>H2. vccreation → customer loyalty</i>	<i>0.337</i>	<i>6.777</i>	<i>0.000</i>
<i>H3. corporate image → customer loyalty</i>	<i>0.305</i>	<i>5.287</i>	<i>0.000</i>

To determine of the significance of the relationship between variables relies on the calculations of the t-value and P-values which shows in Table 5 and Figure 2, which a t-value of 1.96 and P-value of 0.05 is the recommended value to determine that there is a statistical significance of a hypothesis. Therefore, to demonstrate a significant and positive relationship, the t-value of the hypothesis must be more than 1.96 and P-value lower than 0.05.

The Figure 2 and Table 5, revealing that there is a positive influence of customer satisfaction (t-value = 5.316, P-values = 0.0000), and corporate image (t-value = 5.287, P-values = 0.0000), as well as vccreation (t-value = 6.777; P-values = 0.00000), on customer loyalty, all exhibit a statistically significant outcome because all the t-value above 1.96. Thus, the hypotheses 1 until 3 are accepted.

In order to analyze hypotheses 4 to 5, this study conducted a mediation test. The mediation test stage was carried out by conducting bootstrapped calculation with 5,000 resamples (Petzer & van Tonder, 2019). Checking the mediation test is carried out by looking at the relationship test between the variables corporate image and vccreation with customer loyalty first, then look at the relationship test of the variables corporate image and vccreation with customer loyalty through satisfaction with the indirect test in Smart PLS (Ali et al., 2021). The outcomes of the mediation test are in Table 6.

Table 6. Mediation analysis

<i>Path</i>	<i>Path coefficient (β)</i>	<i>T values</i>	<i>P-values</i>
<i>H4. corporate image → customer satisfaction → customer loyalty</i>	<i>0.116</i>	<i>4.222</i>	<i>0.000</i>
<i>H5. vccreation → customer satisfaction → customer loyalty</i>	<i>0.089</i>	<i>3.966</i>	<i>0.000</i>

The Table 6 , reveals the indirect effect test results in the table show that vccreation (t-value = 3.966, P-values = 0.00), and corporate image (t-value = 4.222, P-values = 0.00) with customer loyalty through satisfaction show positive and significant results with a t value above the recommendation, and the P-values close to 0.00. Then results in the table 5 also shows that the variables vccreation and corporate image have a positive affect on customer loyalty directly. Thus, the mediation test shows that customer satisfaction partially mediate the influence of vccreation and corporate image with loyalty. By looking at the calculation results, the mediation analysis shows that the hypotheses 4 and 5 are accepted.

B. Discussions

To analyse the mediation effect of customer satisfaction on the relationship between corporate image, and vccreation and customer loyalty is the main focus in this study. To answer this main objective, the research proposes several hypotheses. The results of the calculation of hypothesis tests five to seven answer this main research question, where it is proven that there is a positive mediating influence from customer satisfaction to mediate between corporate image, and vccreation with customer loyalty. The results obtained from the calculations for the fourth hypothesis show that there is a mediating effect between satisfaction for corporate image and loyalty. These results are in line with prior findings that researched the education and telephone industries (Jamshidi & Roust, 2021; Schlesinger et al., 2023). Then the hypothesis 5 test were also accepted where customer satisfaction affectively mediates between vccreation and customer loyalty, these results is in tune

with previous journal in the B2C industry (Gaudenzi et al., 2021; Opata et al., 2021; Xiao et al., 2020). Prior studies have proved the mediating influence of customer satisfaction on corporate image and vcreation with customer loyalty, but previous studies have studied them separately (Gaudenzi et al., 2021; Hayati et al., 2020; Jamshidi & Roustafard, 2021; Opata et al., 2021; Schlesinger et al., 2023), however only a few studies that examine the mediating influence of satisfied customers on corporate brand image and vcreation with customer loyalty in one research model, and even fewer have studied it for the apartment construction industry, so this is a literature gap that is focused by this research, and one of the novelties of this research.

The structural test also show that the first to third hypotheses are accepted, customer satisfaction, vcreation and corporate brand image positively affect customer loyalty to apartment contractor. The first hypothesis test show that customer satisfaction positively affect their loyalty towards apartment construction contractors, these results are in line with previous research in the B2B industry (Gaudenzi et al., 2021; Woratschek et al., 2020). The second hypothesis test prove that corporate image affectively forming customer loyalty, where these results is in tune with prior studies in the B2B industry (Alam & Noor, 2020; Gelderman et al., 2021). The third hypothesis test conclude that vcreation significantly influence customer loyalty, these results is in accordance with the results of previous research in the banking and insurance industries (Iglesias et al., 2020; Xu et al., 2021). Result of first to third hypotheses tests extends academic literature by empirically prove that vcreation, corporate image, and customer satisfaction positively affect their loyalty toward contractor in the apartment construction industry. The hypothesis test in Table 5 also revealed that the corporate image variable has the highest beta value (0.337), followed by corporate image with a slight difference (beta = 0.307), so it can be assumed that the corporate image and vcreation variables has the highest influence in forming customer loyalty. Based on the findings, reveals that to build loyalty from developers, contractors must establish a strong value co-creation relationship with them. This relationship can be achieved by treating developers not merely as customers, but as active collaborators in project execution. Additionally, contractors must build a positive brand image both among competitors and apartment developers to facilitate the development of loyalty from apartment developers in Indonesia.

IV. CONCLUSION

The purpose of this study is to examine the mediation impact of customer satisfaction on the relationship between corporate image, and vcreation and customer loyalty. Based on the findings, customer satisfaction significantly mediates between corporate image and vcreation with their loyalty. The findings from the research also show that corporate image and vcreation positively affect customer loyalty to apartment contractors. These findings provide useful information in apartment contractor strategy management. Because the findings of this research show that customer loyalty and satisfaction with apartment contractors can be increased by building and improving the contractor's corporate image, and contractors carrying out value co-creation strategy in working on apartment projects.

This study provides several contributions to the advancement of academic theory. First, it expands upon the Stimulus-Organism-Response (SOR) theory, which serves as the foundational model for this research. While numerous prior studies have applied SOR theory across various industries, there remains limited research employing this theory to examine developer loyalty toward contractors in the apartment construction industry.

The other implication is in the development of the expectancy disconfirmation theory. Expectancy disconfirmation theory is the theoretical used as backbone in developing customer satisfaction variables. Customer satisfaction is a variable that has been widely researched in various industries, but only few addresses customer satisfaction in the apartment construction industry, this research fills this literature gap on expectancy disconfirmation theory.

Apart from having theoretical implications, this research also have several managerial practical implications for the apartment construction industry in Indonesia. The first managerial implication, research provides empirical evidence that customer satisfaction plays an important role in forming loyalty, where customer satisfaction not only acts as a predictor but as a mediator of corporate image, and vcreation. So it is important for apartment contractors to understand their developers as customers. Understanding the developer's expectations when they want to carry out a project is important to be able to gain loyalty from developers.

Second managerial implication is that the result can be a used as a guide for creating strategies to build customer satisfaction and customer loyalty to apartment contractor. To uphold and build customer satisfaction and customer loyalty, contractors must pay attention to their corporate image, and implement vcreation. The results of this research show that value co-creation has the greatest influence on the formation of customer loyalty, contractors need to build value co-creation in project implementation by encouraging developers as customers to active in working on solutions when project problems occur, and finally maintaining relationships with developers through, namely by forming a network of relationships based on mutual assistance.

Although this research has several implications, there are also limitations which could provide suggestions for future research. This research examines the apartment construction industry with corporate image, recreation and as factors that effect of customer satisfaction and their loyalty, where there are several other variables that can play a role and influence in maintaining and building satisfaction and loyalty, such as hedonic, service quality..

Then this research uses a cross sectional method in collecting data, where data collection is carried out once in a certain period, subsequent research can use a longitudinal data collection approach to compare differences that occur over a certain period of time.

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The Influence of Work Family Conflict, Workload on the Female Employee Performance Surabaya Health Office with Work Stress as An Intervening Variable

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ABSTRACT

Purpose: The purpose of this research is to determine and analyze the influence of work family conflict, workload on the female employee performance at Surabaya Health Office with work stress as an intervening variable.

Design/methodology/approach: The data collection technique used to fill out a questionnaire using the Saturated Sampling method which was distributed to the sample population of 53 female civil servant (PNS) at Surabaya Health Office as respondents. 53 questionnaires were distributed and 48 questionnaires were filled, so the sample used is 48. The measurement scale in this study used a Likert scale. The analysis technique employed was Structural Equation Modeling (SEM).

Findings: Based on the hypothesis testing results for the path coefficients and specific indirect effects, seven hypotheses were generated, but only three hypotheses were accepted. These three hypotheses are : work-family conflict has positive and significant influence on work stress, work stress has negative and significant influence on employee performance, and work-family conflict has negative and significant influence on employee performance with work stress as an intervening variable.

Paper type: Research paper

Keyword: *Work Family Conflict, Workload, Work Stress, Employee Performance.*

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I. INTRODUCTION

The phenomenon of work-family conflict is a problem of conflict over commitment and responsibility towards the family which is a problem. Indicators of dual role conflict explain this because the time demands of their work bring special difficulties for female employees who have children in caring for their families so that their time together with their families becomes very short (Dewi et al., 2021). In completing work tasks and responsibilities, sometimes there are problems or disturbances related to women's psychology (Komariyah et al., 2021).

Workload problems that affect performance where the workload given to employees is uneven, giving rise to a section that has too much workload and a section that has too little workload, this too much workload can cause work stress which will later affect employee performance (Alifah et al., 2020). In completing work tasks, there are sometimes disturbances or problems related to psychological factors in women, for example the woman feels guilty for leaving her family to work, is stressed because of limited time and too much work load and an unpleasant work situation. This situation will disturb the minds and mental health of female employees when working. This can be called work stress (Rusinta et al., 2019)

Stress cannot be avoided by any individual, but efforts to minimize the risk are very necessary. Anticipate the good and bad impacts and magnify the positive impacts (Setia Budi, 2020). Performance is used by management to carry out periodic assessments regarding the operational effectiveness of an organization and employees based on previously established targets, standards and criteria. With performance, organizations and

management can find out the extent of their employees' successes and failures in carrying out the mandate they receive (Imaniah, 2021).

The Surabaya Health Office as one of the public service institutions committed to improving the quality of health services faces big challenges in ensuring optimal performance of its employees. It is tasked with carrying out regional government affairs in the health sector in accordance with applicable laws and regulations. The functions of the health service include formulation of technical policies in the health sector, implementation of policies in the health Sector, administrative services in the health sector, supervision and control of health programs, management of health data and information, increased capacity of health resources, implementation of health program evaluations.

The phenomenon of women working, especially in government agencies such as the Surabaya Health Office with the current percentage of employees consisting of 60% female civil servants and 40% men, is a challenge in itself. There are several things that need to be considered so that the performance of all employees can be optimal, especially for women who often face multiple roles. On the one hand, female employees have to fulfill professional demands as high-performing Civil Servants (PNS), while on the other hand, female employees also have the responsibility to take care of their families. The demands of multiple roles and workloads on female employees can cause feelings of pressure or stress. So work stress will influence the achievement of predetermined performance indicators. Employee performance greatly determines the overall performance of the organization, because this is important for every organization in its efforts to achieve organizational goals effectively and efficiently.

According to several previous studies, the performance of female employees is caused by several factors, including work family conflict factor in the research (Latunusa et al., 2023), workload factor in the research (Khusna, 2024) and work stress factor in the research (Imaniah, 2021) it was concluded that work family conflict, workload and work stress had a negative and significant on the performance of female employee. There is a research gap on work family conflict in female employees studied by (Komariyah et al., 2021), about the workload on female employees studied by (Damayanti et al., 2021) and about work stress studied by (Lisdayanti et al., 2023) state that work family conflict, workload, and work stress have a positive and significant on the performance of female employee. Based on the description of previous empirical research, there are several research gap results regarding factors that influence employee performance, so he researchers raised the title "The Influence of Work Family Conflict, Workload on the Female Employee Performance Surabaya Health Office with Work Stress as an Intervening Variable".

A. Literature Review

1. Work Family Conflict

According to (Soetjipto, 2019) the ability to divide work tasks unequally actually palces women in difficulties in their lives, especially those related to the problem of balancing roles in the family and work.

2. Workload

According to (Budiasa, 2021) workload is something that felt to be beyond the employee's ability to do the job. A person's capacity required to carry out a task according to expectations is different from the capacity available at that time. The difference between the two shows the level of task difficulty which reflects the workload.

3. Work Stress

According to (Riyadi, 2022), stress is an adaptive response to external situations that procedure physical, psychological and / or behavioral deviations in organizational members, where the form of stress experienced depends on the unique characteristics of the individual concerned and his appreciation of environmental factors that have the potential to give rise to stress for him, even through almost every group of people is faced with similar types or conditions of stress. However, this will produce different reaction, even individual can have different reaction patterns.

4. Employee Performance

According to (Lian, 2021) the term performance is a translation of performance is often interpreted by scholar as appearance, performance work or achievement. In the illustrated Oxford Dictionary, the term it indicated execution or fulfillment of duties (excecution or accomplishment of a task) or a person's lack of accomplishmen test conditions, etc.

II. METHODS

A. Conceptual Framework

Referring to the background information, research objectives, and previous research findings, a conceptual framework has been developed to provide more detailed guidance in achieving the objectives of this study. The conceptual framework in this research can be presented as follows :

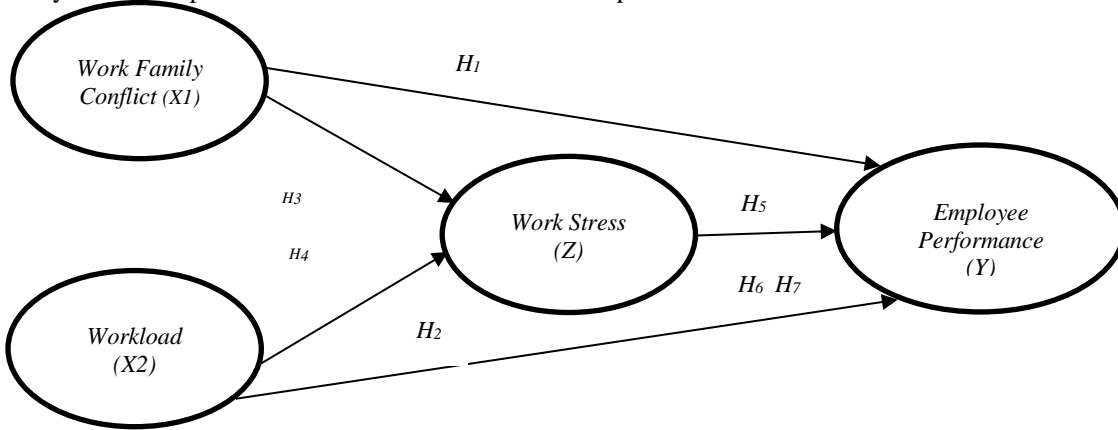


Figure 1. Research Conceptual Framework

B. Hypothesis

Considering the previous analysis and following the defined line of thought, as well as referring to previous research, the hypothesis in this study can be summarized as follows:

1. The influence of work family conflict on employee performance
Research results from (Juru & Wellem, 2022), (Tewal et al., 2021) and (Latunusa et al., 2023) found that work family conflict has a negative and significant influence on employee performance. The higher the work-family conflict in female employees, it can cause a decrease in the performance of female employees. From the explanation above, the hypothesis obtained is strengthened as follows :
H1 : work family conflict has a negative and significant influence on employee performance
2. The influence of workload on employee performance
According to (Primawalda et al., 2023), (Jasmalinda, 2021) and (Khusna, 2024), research results show that workload has a negative and significant influence on the performance of female employees. The higher the workload on female employees, it can cause a decrease in employee performance. From the explanation above, the hypothesis obtained is strengthened as follows:
H2 : workload has a negative and significant influence on employee performance
3. The influence of work family conflict on work stress
According to research (Komariyah et al., 2021), (Tualai & Aima, 2022) and (Lukiastuti & Lissa'dijah, 2021), research results showed that work family conflict has a positive and significant influence on the work stress of female employees. From the explanation above, the hypothesis in this research is strengthened as follows:
H3 : work family conflict has a positive and significant influence on work stress
4. The influence of workload on work stress
Based on the research (Damayanti et al., 2021), (Alifah et al., 2020), and (Kamalia Yuli et al., 2023), it is stated that workload has a positive and significant influence on the work stress of female employees. From the explanation above, the hypothesis in this research is strengthened as follows:
H4 : workload has a positive and significant influence on work stress
5. The influence of work stress on employee performance
Based on research results (Karlina & Fitri, 2023), (Imaniah, 2021), and (Muhareni et al., 2022) it is stated that work stress has a negative and significant influence on the performance of female employees. From the explanation above, the hypothesis in this research is strengthened as follows :
H5 : work stress has a negative and significant influence on employee performance
6. The influence of work family conflict on employee performance with work stress as an intervening variable
Base on the research (Saputra & Suhendra, 2022), that work family conflict had a negative and significant influence on employee performance with work stress as an intervening variable. From the explanation above, the hypothesis obtained is as follows:
H6 : work family conflict has a negative and significant influence on employee performance with work stress as intervening variable

7. The influence of workload on employee performance with work stress as an intervening variable
According to research (Juru & Wellem, 2022), stated that workload has a negative and significant influence on performance and work stress as an intervening is able to mediate the relationship between the workload variable and Employee Performance.

H7 : workload has a negative and significant influence on employee performance performance with work stress as intervening variable

C. Data Collection And Analysis Technique

This type of research falls into the category of quantitative research. Quantitative research methods can be defined as "a research approach based on positivist philosophy, used to investigate a specific population or sample, with data collection techniques involving research tools or instruments, and data analyzed quantitatively or statistically with the aim of testing previously formulated hypotheses" (Sugiyono, 2010). The sample for this research was selected using a saturated sampling method, meaning that all 53 female civil servant (PNS) at Surabaya Health Office. From 53 questionnaires were distributed and 48 questionnaires were filled and processed using the SEM-PLS application. This approach indicates that if the population size is less than 100 individuals, the entire population can be used as the research sample (Sugiyono, 2010). The data collection method in this research involves the use of a brief questionnaire. The questionnaire is completed through Google Forms. The data collection technique used by researchers is a questionnaire with a Likert Scale of 1-5. The data analysis technique in this research uses Structural Equation Modeling (SEM). The analytical method used in this research is Outer Model Analysis, Inner Model Analysis, to test the hypothesis, the p-values test is carried out using the Structural Equation Modeling (SEM) application.

III. RESULTS AND DISCUSSION

A. Result

1. The characteristic of Respondents

The characteristic of respondent studied in this study consisted of gender, age, marital status, children owned and education. The sample in this study as shown in the table below :

Table 1. Characteristics of Respondents

<i>Characteristic</i>	<i>Description</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Gender</i>	<i>Male</i>	<i>0</i>	<i>0%</i>
	<i>Female</i>	<i>48</i>	<i>100%</i>
	<i>Total</i>	<i>48</i>	<i>100%</i>
<i>Age</i>	<i>20 - 30</i>	<i>2</i>	<i>4.17%</i>
	<i>31 - 40</i>	<i>17</i>	<i>35.42%</i>
	<i>41 - 50</i>	<i>24</i>	<i>50%</i>
	<i>>51</i>	<i>5</i>	<i>10.42%</i>
	<i>Total</i>	<i>48</i>	<i>100%</i>
<i>Marital Status</i>	<i>Unmarried</i>	<i>1</i>	<i>2,08%</i>

	<i>Married</i>	47	97,92%
	<i>Total</i>	48	100%
<i>Children Owned</i>	<i>Do not have yet (0)</i>	2	4.17%
	<i>1 Child</i>	17	35.42%
	<i>2 Child</i>	24	50%
	<i>3 Child</i>	5	10.42%
	<i>Total</i>	48	100%
	<i>Education</i>	<i>Senior High School</i>	5
<i>Diploma III</i>		9	18.75%
<i>Diploma IV</i>		2	4.17%
<i>Bachelor</i>		21	56.25%
<i>Master</i>		11	12.50%
<i>Total</i>		48	100%
<i>Length of Service</i>	<i>< 5 years</i>	2	4.17%
	<i>5 – 10 years</i>	5	10.42%
	<i>11 – 20 years</i>	32	66.67%
	<i>21 – 30 years</i>	6	12.50%
	<i>>31 years</i>	3	6.25%
	<i>Total</i>	48	100%

Data Source: Processed primary data (2024)

According on table 1, it is known that there were 48 respondents (100%). Based on the characteristics of the respondents above, it shows that the all of respondents are women. It can be seen that the majority of respondent's age 50% are 41 - 50 and the minority respondents is 20 - 30. The majority of respondent's marital status 97.92% are married. The majority of respondent;s children own 50% have 2 children. The majority of respondent's education 56 % are Bachelor and the minority respondents is Diploma IV. Then, based on the length of service, it was found that the respondent's character was at most 11 - 20 years and at least <5 years.

Based on the results of the characteristics of these respondents, it will be known that each employee will be different in assessing the variables discussed in this research, so that they can produce valid values.

2. Analysis Technic

The Structural Equation Modeling (SEM) method is a combination of mathematical engineering methods and path analysis. Model Scheme in this research, hypothesis testing uses the Partial Least Square (PLS) analysis technique with the smartPLS 4.0 program. Structural Equation Modeling, better known as SEM, is a statistical method/technique used to build and test statistical models in the form of cause-and-effect models. SEM data processing techniques are usually used to explain the overall relationship between each variable in the research. The SEM function is similar to the regression method, especially multiple regression, but SEM modeling is stronger and covers the weaknesses of the regression method because SEM modeling uses interactive, non-linear modeling, independent variables that are correlated with each other (independently correlated), error interference, as well as several independent variables, each of which is measured by each indicator used

3. Outer Model Testing

a. Convergent Validity

To test convergent validity, the outer loading or loading factor value is used. An indicator is declared to meet convergent validity in the good category if the outer loading value is > 0.7 . In first step of testing with all indicators, several indicators were found to be invalid, leading to elimination of the invalid indicators, namely (X1.2, X2.2, Y1.1). Subsequently, a convergent validity test was conducted, yielding the results shown in Table 2 below. The following are the loading factor values for each indicator on the research variables.

Table 2. Loading Factor

<i>Variable</i>	<i>Indicator</i>	<i>Loading Factor</i>	<i>Rule of Thumb</i>	<i>Conclusion</i>
<i>Work Family Conflict (X1)</i>	<i>X1.2</i>	<i>0.911</i>	<i>0.7</i>	<i>Valid</i>
	<i>X1.3</i>	<i>0.873</i>	<i>0.7</i>	<i>Valid</i>
<i>Workload (X2)</i>	<i>X2.1</i>	<i>0.805</i>	<i>0.7</i>	<i>Valid</i>
	<i>X2.3</i>	<i>0.901</i>	<i>0.7</i>	<i>Valid</i>
<i>Work Stress (Z)</i>	<i>Z1.1</i>	<i>0.846</i>	<i>0.7</i>	<i>Valid</i>
	<i>Z1.2</i>	<i>0.901</i>	<i>0.7</i>	<i>Valid</i>
	<i>Z1.3</i>	<i>0.844</i>	<i>0.7</i>	<i>Valid</i>
	<i>Z1.4</i>	<i>0.814</i>	<i>0.7</i>	<i>Valid</i>
	<i>Z1.5</i>	<i>0.804</i>	<i>0.7</i>	<i>Valid</i>
<i>Employee Performance (Y)</i>	<i>Y1.2</i>	<i>0.953</i>	<i>0.7</i>	<i>Valid</i>
	<i>Y1.3</i>	<i>0.960</i>	<i>0.7</i>	<i>Valid</i>
	<i>Y1.4</i>	<i>0.768</i>	<i>0.7</i>	<i>Valid</i>

Data Source: 2024 PLS Data Processing Results

The data presented in table 2 above shows that each research variable indicator has an outer loading value of > 0.7. The data above shows that there are no variable indicators whose outer loading value is below 0.7, so that all indicators are declared suitable or valid for research use and can be used for further analysis.

b. Discriminant Validity

In this section, the results of the discriminant validity test will be described. The discriminant validity test uses cross loading values. An indicator is declared to meet discriminant validity if the cross loading value of the indicator on the variable is the largest compared to other variables. The following is the cross loading value of each indicator.

Table 3. Cross Loading

<i>Indicator</i>	<i>Workload</i>	<i>Employee Performance</i>	<i>Work Stress</i>	<i>Work Family Conflict</i>	<i>Conclusion</i>
<i>X1.2</i>	-0.358	-0.316	0.517	0.911	<i>Valid</i>
<i>X1.3</i>	-0.366	-0.197	0.475	0.873	<i>Valid</i>
<i>X2.1</i>	0.805	0.342	-0.212	-0.201	<i>Valid</i>
<i>X2.3</i>	0.901	0.377	-0.393	-0.456	<i>Valid</i>
<i>Z1.1</i>	-0.411	-0.457	0.846	0.500	<i>Valid</i>
<i>Z1.2</i>	-0.360	-0.335	0.901	0.542	<i>Valid</i>
<i>Z1.3</i>	-0.223	-0.342	0.844	0.434	<i>Valid</i>
<i>Z1.4</i>	-0.221	-0.415	0.814	0.415	<i>Valid</i>
<i>Z1.5</i>	-0.302	-0.428	0.804	0.443	<i>Valid</i>
<i>Y1.1</i>	0.454	0.953	-0.418	-0.318	<i>Valid</i>
<i>Y1.2</i>	0.454	0.960	-0.511	-0.290	<i>Valid</i>
<i>Y1.4</i>	0.102	0.768	-0.296	-0.123	<i>Valid</i>

Data Source: 2024 PLS Data Processing Results

According to the data in table 3, it shows that the loading value of each indicator item on the construct is greater than the cross-loading value. Thus, it can be concluded that all constructs or latent variables have good discriminant validity, where in the block the construct indicators are better than the other block indicators.

4. Composite Reliability and Cronbach’s Alpha

Besides construct validity testing, construct reliability testing was also carried out as measured by composite reliability and Cronbach's alpha of the indicator block that measures the construct. The following are the results of composite reliability and Cronbach's alpha testing from Smart PLS:

Table 4. Composite Reliability and Cronbach's Alpha

<i>Variable</i>	<i>Composite Reliability</i>	<i>Rule ofThumb</i>	<i>Cronbach's Alpha</i>	<i>Rule of Thumb</i>	<i>Conclusion</i>
<i>Workload</i>	<i>0.844</i>	<i>0.7</i>	<i>0.638</i>	<i>0.6</i>	<i>Reliable</i>
<i>Employee Performance</i>	<i>0.925</i>	<i>0.7</i>	<i>0.884</i>	<i>0.6</i>	<i>Reliable</i>
<i>Work Stress</i>	<i>0.924</i>	<i>0.7</i>	<i>0.898</i>	<i>0.6</i>	<i>Reliable</i>
<i>Work Family Conflict</i>	<i>0.886</i>	<i>0.7</i>	<i>0.745</i>	<i>0.6</i>	<i>Reliable</i>

Data Source: 2024 PLS Data Processing Results

A variable is declared reliable if it has a composite reliability value above 0.7 and Cronbach's alpha above 0.60. From the SmartPLS output results above, all variables have composite reliability values above 0.70 and Cronbach's alpha above 0.60. So it can be concluded that validity has good reliability.

5. Average Variance Extracted (AVE)

Apart from observing the cross-loading value, discriminant validity can also be determined through other methods, namely by looking at the average variant extracted (AVE) value for each indicator, the required value must be > 0.5 for a good model.

Table 5. Average Variant Extracted (AVE)

<i>Variable</i>	<i>AVE</i>	<i>Conclusion</i>
<i>Work Family Conflict</i>	<i>0.796</i>	<i>Reliable</i>
<i>Workload</i>	<i>0.730</i>	<i>Reliable</i>
<i>Work Stress</i>	<i>0.710</i>	<i>Reliable</i>
<i>Employee Performance</i>	<i>0.807</i>	<i>Reliable</i>

Data Source: 2024 PLS Data Processing Results

The data presentation in table 5 above shows that the AVE value of the work family conflict, workload, work stress, and employee performance variables is > 0.5. So it can be stated that each variable has good reliability.

6. Inner Model Testing

This research will explain the results of the path coefficient test, R-square, f-square, Q-square, goodness of fit test, and hypothesis test.

7. Determination Coefficient (R²) Test Results

The determination coefficient (R-Square) is used to measure how much endogenous variables are influenced by other variables. Based on data processing that has been carried out using the SmartPLS program, the R-Square values are obtained as follows:

Table 6. R-Square Value

<i>Variable</i>	<i>Nilai R-Square</i>
<i>Employee Performance</i>	<i>0.295</i>
<i>Work Stress</i>	<i>0.334</i>

Data Source: 2024 PLS Data Processing Results

Based on the data presented in table 6 above, it can be seen that the R-Square value for the employee performance variable is 0.295 (moderat). which gives the meaning that contribution of variables X1, X2 and Z to Y is equal to 29.5% and the remaining 70.5% is the contribution of other variables not included in the study. Then the R-Square value obtained for the Work Stress variable is 0.334 (moderat). This value explains that contribution of variables X1, X2 and Z to Y at 33.4% and the remaining 66.6% is the contribution of other variables not included in the study.

8. Effect Size (f²) Results

The change in the R-square value can be used to determine whether the influence of exogenous latent variables on endogenous latent variables has a substantive impact. Therefore, it is necessary to measure the effect size (f²), with the recommended values for exogenous latent variables being 0.02 (small), 0.15 (moderate), and 0.35 (large) (Cohen, 1998).

Table 7. f-Square Value

<i>Variable</i>	<i>f-Square</i>	<i>Conclusion</i>
<i>Work family conflict → Employee Performance</i>	<i>0.010</i>	<i>Small</i>
<i>Workload → Employee Performance</i>	<i>0.098</i>	<i>Small</i>
<i>Work family conflict → Work Stres</i>	<i>0.162</i>	<i>Moderat</i>
<i>Workload → Work Stres</i>	<i>0.081</i>	<i>Small</i>
<i>Work Stres → Employee Performance</i>	<i>0.107</i>	<i>Small</i>

Data Source: 2024 PLS Data Processing Results

9. Predictive Relevance Test (Q²)

The Q-Square value has the same meaning as coefficient determination (R-Square) in regression analysis, where the higher the Q-Square, the better or more fit the model can be to the data.

The results of calculating the Q-Square value are as follows :

$$\begin{aligned}
 \text{Q-Square} &= 1 - [(1 - R^2) \times (1 - R_1^2)] \\
 &= 1 - [(1 - 0,334^2) \times (1 - 0,259^2)] \\
 &= 1 - (0.666 \times 0.741) \\
 &= 1 - 0,493506 \\
 &= 0,506494
 \end{aligned}$$

From the Q-Square calculation, it is known that the Q-Square value is 0.506494. This shows that the large diversity of research data that can be explained by the research model is 50.6%. Meanwhile, the remaining 49.4% is explained by other factors outside this research model. Thus, from these results, this research model can be stated to have good goodness of fit

10. Goodness Test Model (Goodness of Fit)

The goodness of fit assessment is known from the Q-Square value. The Goodness of Fit (GoF) test is used to validate the combined performance of the measurement model and the structural model. The GoF value ranges from 0 to 1, with the interpretation of the values as follows : 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF). The results of calculating the GoF value are as follows :

Table 8. Compare AVE and R-square value

Variable	AVE	R-Square
Work Family Conflict	0.796	-
Workload	0.730	-
Work Stress	0.710	0.334
Employee Performance	0.807	0.295
Total	3.043	0.629

Data Source: 2024 PLS Data Processing Results

$$\begin{aligned}
 \text{GoF} &= \sqrt{\text{AVE} \times \overline{R^2}} \\
 &= \sqrt{3.043 \times 0.629} \\
 &= \sqrt{0.76075 \times 0.31450} \\
 &= \sqrt{0.239255875} \\
 &= 0.48913789
 \end{aligned}$$

From the GoF calculation, it is known that the GoF value is 0.48913789. Thus, from these results, this research model can be stated to have good goodness of fit with category large (more than 0.36).

11. Hypothesis Testing

Hypothesis testing was carried out using the bootstrapping resampling method developed by Geisser and Stone. The image below shows the results that this model meets the validity and reliability tests on each path tested :

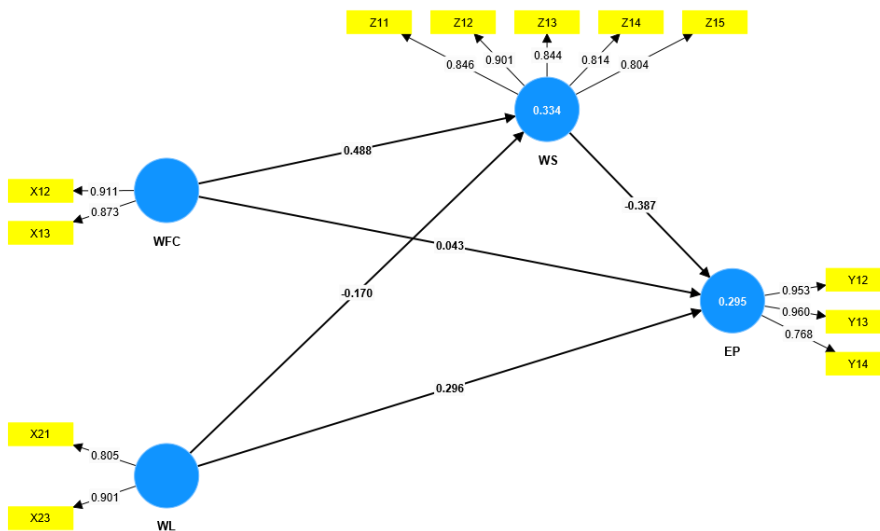


Figure 2. Model SEM-PLS

Based on the data processing that has been carried out, the results can be used to answer the hypothesis in this research. Hypothesis testing in this research was carried out by looking at the T-Statistics values and P-Values. The research hypothesis can be declared accepted if the P-Values is <0.05. The following are the results of hypothesis testing obtained in this research through the inner model:

Table. 9 Hypothesis Testing

<i>Hypothesis</i>	<i>Influence</i>	<i>Coeffisient</i>	<i>T-statistics</i>	<i>P-Values</i>	<i>Result</i>
<i>H1</i>	<i>WFC → EP</i>	<i>0.043</i>	<i>0.322</i>	<i>0.748</i>	<i>Rejected</i>
<i>H2</i>	<i>WL → EP</i>	<i>0.296</i>	<i>1.408</i>	<i>0.159</i>	<i>Rejected</i>
<i>H3</i>	<i>WFC → WS</i>	<i>0.488</i>	<i>3.034</i>	<i>0,002</i>	<i>Accepted</i>
<i>H4</i>	<i>WL → WS</i>	<i>-0.170</i>	<i>0.980</i>	<i>0,327</i>	<i>Rejected</i>
<i>H5</i>	<i>WS → EP</i>	<i>-0.387</i>	<i>2.578</i>	<i>0,010</i>	<i>Accepted</i>
<i>H6</i>	<i>WFC → WS → EP</i>	<i>-0.189</i>	<i>1.990</i>	<i>0,047</i>	<i>Accepted</i>
<i>H7</i>	<i>WL → WS → EP</i>	<i>0.066</i>	<i>0.956</i>	<i>0,339</i>	<i>Rejected</i>

Data Source: 2024 PLS Data Processing Results

Based on the data presented in the table. 9 above, it can be seen that of the seven hypotheses proposed in this research, they are as follows:

1. The influence of work family conflict on employee performance a P-value of 0.748 or greater than 0.05. This means that the work family conflict variable has positive and not significant influence on employee performance.
2. The influence of workload on employee performance has a P-value of 0.159 or greater than 0.05. This means that the workload variable has positive and not significant influence on employee performance.
3. The influence of work family conflict on work stress has a P-value of 0.002 or less than 0.05. This means that the work family conflict variable has positive and significant influence on work stress.
4. The influence of workload on work stress has a P-value of 0.327 or greater than 0.05. This means that the workload variable has negative and not significant influence on work stress.
5. The influence of work stress on employee performance has a P-value of 0.010 or less than 0.05. This means that the work stress variable has negative and significant influence on employee performance.
6. The influence of work family conflict on employee performance has a P-value of 0.047 or less than 0.05. This means that the work family conflict has negative and significant influence on employee performance with work stress as intervening variable.
7. The influence of workload on employee performance has a P-value of 0.339 or greater than 0.05. This means that the workload variable has positive and not significant influence on employee performance with work stress as a intervening variable.

B. Discussion

In this section, will discuss the research hypothesis which is explained as follows :

1. The influence of Work Family Conflict on Employee Performance
Referring to the results of the first hypothesis test, statistically the p-value 0.748 which is greater than 0.05, so the first hypothesis which states "work family conflict variable has negative and significant influence on employee performance" is rejected. Thus, the female employees believe and feel that the tasks assigned are jobs that must be completed and are their responsibility, even though they face difficulties in balancing time between work and family or feel stressed and find it challenging to balance their roles at work and at home.

In this context, the impact of work-family conflict is not significant enough to substantially influence the work outcomes of female employees.

The results of this research are supported by the results of research conducted by (Lukiastuti & Lissa'dijah, 2021), (Ibrahim et al., 2021) and (Lisdayanti et al., 2023). This research states that the work family conflict has a positive and has not significant influence on employee performance, which means that when female employees experience family issues, it can be difficult for them to concentrate on work, but the influence on employee performance is not significant.

2. The influence of Workload on Employee Performance

Based on the results of the second hypothesis test, statistically the p-value 1.59 which is greater than 0.05 so that the second hypothesis which states "workload variable has negative and significant influence on employee performance" is rejected. Although female employees may spend more time completing tasks, the increase in work hours does not always significantly improve performance. And while female employees may have to think harder in their work, this does not significantly impact their performance. The psychological pressure experienced in the job may not be strong enough to have a significant influence on performance. Even though this work pressure may exist, its impact on performance is not substantial enough to be considered significant.

The results of this research are supported by research (Manalu, 2020), (Putri et al., 2023), (Winoto & Perkasa, 2024), dan which states that workload has a positive and significantly influence on employee performance, when workload increases, there is a tendency for employee performance to also increase, although the influence is not strong enough to be considered statistically significant.

3. The influence of Work Family Conflict on Work Stress

Referring to the results of the second hypothesis test, statistically the p-value 0.002 which is less than 0.05 so that the Third hypothesis which states "work family conflict variable has positive and significant influence on work stress" is accepted. Conflicts between multiple roles that must be fulfilled, such as being a worker and mother, interpersonal relationships at the workplace that are unsupportive or filled with conflict can exacerbate work-family conflict. A rigid leadership style significantly increases the level of work stress caused by work-family conflict.

The results of this research are in accordance with the results of research conducted by (Pertiwi et al., 2020) (Komariyah et al., 2021), (Sari et al., 2021), (Lukiastuti & Lissa'dijah, 2021), (Muhareni et al., 2022), (Lisdayanti et al., 2023), and (Anggraeny et al., 2024) which states that work family conflict variable is positive and has a significant influence on work stress. A high level of work-family conflict can significantly increase work stress.

4. The influence of Workload Conflict on Work Stress

Based on the results of the third hypothesis test, statistically the p-value 0.327 which is greater than 0.05 so that the fourth hypothesis which states "workload variable has positive and significant influence on work stress" is rejected. Thus it can be stated that the workload has a negative and not significant influence on work stress. Lower workloads do not always reduce stress if there is conflict or tension in interpersonal relationships at work. For example, conflicts with colleagues or supervisors can still trigger stress even when the workload decreases.

The results of this research are supported by research (Damayanti et al., 2021) dan (Imaniah, 2021), which states that workload variable is positive and has not a significant influence on work stress. The result shows that although the workload may decrease, it does not necessarily significantly reduce work stress.

5. The influence of Work Stress on Employee Performance

Based on the results of the fourth hypothesis test, statistically the p-value 0.010 which is less than 0.05 so that the fifth hypothesis which states "work stress variable has negative and significant influence on employee performance" is accepted. Thus it can be stated that when female employees feel stressed, they may become less productive, which ultimately influence the amount of output produced. Stress can also impact their ability to complete tasks on time. Pressure and anxiety can slow down decision-making and task execution, resulting in missed deadlines. Work-related stress can reduce a person's ability to work effectively within a team.

The results of this research are supported by research (Alifah et al., 2020), (Cahaya Sapitri & Dudija, 2020), (Pertiwi et al., 2020), (Dewi et al., 2021), (Karlina & Fitri, 2023), (Herdiana & Sary, 2023), (Imaniah, 2021), (Muhareni et al., 2022) dan (Juru & Wellem, 2022). This research states work stress variable is negative and has a significant influence on employee performance. Work stress among female employees often leads to a decline in work quality, as stressed employees tend to make more mistakes, be less meticulous, and find it difficult to focus. This can result in work outcomes that do not meet the expected standards.

6. The influence of Work Family Conflict on Employee Performance with Work Stress as Intervening Variable

Based on the results of the fourth hypothesis test, statistically the p-value 0.047 which is less than 0.05 so that the sixth hypothesis which states "work family conflict has negative and significant influence on employee performance with work stress as intervening variable" is accepted. Thus it can be stated that Work-family

conflict often leads to increased work stress. When employees feel they cannot balance the demands of work and family, they tend to experience higher levels of stress. This stress then becomes an intermediary factor that worsens employee performance, leading to a decline in the performance of female employees in terms of work quality, work quantity, punctuality, and teamwork.

The results of this research are supported by research (Sari et al., 2021), (Komariyah et al., 2021), (Tualai & Aima, 2022), dan (Khusna, 2024) concluding that work family conflict is negative and has a significant influence on employee performance with work stress as intervening variable. In general, work-family conflict can significantly reduce employee performance, primarily through increased work stress.

7. The influence of Workload on Employee Performance with Work Stress as Intervening Variable
Based on the results of the fifth hypothesis test, statistically the p-value 0.339 which is greater than 0.05 so that the Seventh hypothesis which states "workload variable has negative and significant influence on Employee Performance with Work Stress as a intervening variable" is rejected. Thus it can be stated that a high workload can present challenges that may encourage some female employees to work harder and become more productive. Female employees who can manage stress well are able to maintain or even improve their performance despite the increased workload. Although there is a positive influence, it is not significant. The results of this research are supported by previous research results from (Imaniah, 2021), which stated that The results of this study indicate that work stress does not mediate the influence of workload and female employee performance.

IV. CONCLUSION

In accordance with the research results described in the previous chapter, several conclusions can be drawn, including:

1. The Work Family Conflict variable has positive and not significant influence on Employee Performance.
2. The Workload variable has positive and not significant influence on Employee Performance.
3. Work Family Conflict variable has positive and significant influence on Work Stress.
4. The Workload variable has negative and not significant influence on Work Stress.
5. The Work Stress variable has negative and significant influence on Employee Performance
6. The Work Family Conflict has negative and significant influence on Employee Performance with Work Stress as intervening variable
7. The Workload variable has positive and not significant influence on Employee Performance with Work Stress as a intervening variable

A. Suggestions

Based on the conclusions and limitations of the research, the researchers suggest:

1. The organization must reduce stress in the workplace by implements flexible work policies, reviews and adjusts workloads, provides psychological support or counseling programs, and offers stress management training to female employees. The organization regularly recognizes employee performance to boost motivation and reduce stress stemming from feeling unappreciated. Support from colleagues and supervisors can help employees feel more supported in balancing work and family demands, ultimately reducing stress and enhancing performance.
2. To support the findings of this research, it is recommended that future researchers conduct similar studies by adding other variables that may influence employee performance to provide more comprehensive results.

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The Influence of Work Environment and Work Facilities on Employee Performance with Work Motivation as An Intervening Variable

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ABSTRACT

Purpose: To analyze the effect of work environment, work facilities on employee performance with work motivation as an intervening variable.

Design/methodology/approach: This research approach uses quantitative research, Saturated Sampling method, the population in this study is the technical team of the Health Sector of the Surabaya City Investment and One-Stop Integrated Service Office with a total of 40 people, the measurement scale in this study uses a Likert scale, The data analysis used in this study used static methods with SEM PLS modeling.

Findings: These findings reveal that work facilities have had no significant influence on employee performance, while the work environment has a significant influence on performance. However, work facilities have a significant influence on employee performance through work motivation as an intervening variable.

Originality/value: This research contributes to understanding the factors that influence employee performance. The results of this study confirm that although work facilities do not have a direct impact on performance.

Furthermore, work motivation plays an important role in improving employee performance as a significant intervening variable between work environment and work facilities on performance.

Paper type: Research paper

Keyword: Work Environment, Work Facilities, Work Motivation, Employee Performance.

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I. INTRODUCTION

Achieving the goals of government organizations that are effective and effective requires employees who are professional, responsible, honest, fair and work effectively. Employees with high performance effectiveness can support the achievement of organizational goals. According to Hasibuan (2021) explains that "effectiveness is a measurement in the sense of achieving goals or objectives that have been previously determined". According to Pasolong (2012) the achievement of organizational goals cannot be separated from the resources owned by the organization which are driven or run by employees who play an active role as actors in efforts to achieve these organizational goals.

Based on the vision of the Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu (DPMPTSP) that has been formulated, there are three main points contained in the vision, namely related to increasing investment, excellent licensing services and the use of information technology. This indicates that increased investment is strongly supported by excellent licensing services that will be provided to industries in applying for investment licenses in the Surabaya City area. The excellent licensing service is related to the speed of the service process, easy requirements and also clear procedures given to the community. In addition, to facilitate the service process, information technology is also used such as SSW (Surabaya Single Window) and in the future SPIPISE

(Electronic Investment Information and Licensing Service System) will be used to support the increase in the number of investments in Surabaya City (DPMPTSP, 2024).

Based on the results of initial observations, it can be seen that the performance of the Health Sector Technical Team at the One-Stop Investment and Integrated Services Office is not optimal. This can be seen from the inaccurate time for issuing licenses as stipulated. This can be seen by not matching the time of issuance of the licensing script with that promised in accordance with the procedure. This shows that licensing sector employees have not been optimal in utilizing the work time that has been determined. For example, in the health sector, the health sector is the sector with the most delays in the licensing completion process.

This is an indication of the lack of performance of the Health Sector Licensing Technical Team, namely not achieving the quantity of work seen with the number of completed files not in accordance with incoming files and the average duration of completion is 9 days.

Some factors that influence employee performance are work facilities, work environment and work motivation. The work environment is all the tools and materials faced by the environment around which a person works, work methods and work arrangements both individually or in groups (Sedarmayanti, 2016). One of the important roles that must be emphasized by the company in order to achieve its goals is to create a good work environment both physically and non-physically.

Research conducted by (Yantika et al., 2018), shows that the work environment influences employee performance. Meanwhile, research (Sabilalo et al., 2020) proves that the work environment has a negative and insignificant effect on employee performance.

Research conducted by (Jufrizen, 2021) shows that the effect of work facilities on employee performance is positive and significant. This is in line with research conducted by (Monde et al., 2022) showing that work facilities affect employee performance. Meanwhile, research (Irawan, 2018) proves that office facilities have no effect on employee performance.

Research conducted by (Winarsih & Hidayat, 2022) states that the results of analysis and comparison of several relevant theories found that motivation has a positive and significant effect on employee performance. This is in line with research conducted by (Hanafi & Yohana, 2017) showing that work motivation affects employee performance. Meanwhile, research (Hidayat, 2021) proves that motivation has no effect on employee performance.

Based on the description of empirical research above, there are several results of research gaps on factors that affect employee performance, so the authors want to review and analyze research with the title "The influence of work environment and work facilities on employee performance with work motivation as an intervening variable".

A. Literature Review

1. Work Environment

The work environment is something that must be considered in organizational companies to improve employee performance. According to Sedarmayanti (2016) the work environment is all the tools and materials faced by the surrounding environment where a person works, work methods and work arrangements both individually or in groups..

2. Work Facilities

Moenir (2016) states that facilities are all types of equipment, work equipment and services that function as tools to assist employees in carrying out work, and are also social in the context of the interests of people who are in contact with the work organization or everything that is used, used, occupied, and enjoyed by users.

3. Work Motivation

Work motivation is one of the factors that determine employees in a company. Even if the company or organization has complete facilities, this does not guarantee that employees will work optimally if there is little or no motivation. According to Edison (2017) motivation is related to what energizes, what directs or channels behavior to be maintained or sustained.

4. Employee Performance

Employee performance is the result of the achievement of a job in fulfilling its purpose. According to (Mangkunegara, 2017) performance is the result of work in quantity and quality achieved by an employee in carrying out his duties in accordance with the responsibilities given.

B. Conceptual Framework

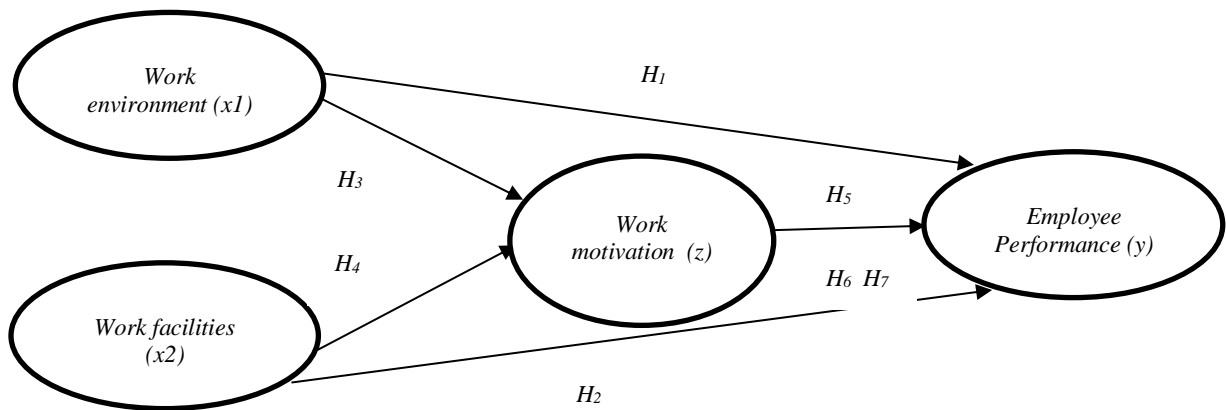


Figure 1. Research Conceptual Framework

C. Hypothesis

- H1: Work environment has a significant influence on employee performance
- H2: Work facilities have a significant influence on employee performance
- H3: Work environment has a significant influence on work motivation
- H4: Work facilities have a significant influence on work motivation.
- H5: Work motivation has a significant influence on employee performance
- H6: Work environment has a significant influence on employee performance with work motivation as an intervening variable.
- H7: Work facilities have a significant influence on employee performance with work motivation as an intervening variable.

II. METHODS

This research approach uses a quantitative method approach, the population in this study is the technical team of the Surabaya City Health Sector with a total of 40 people. The analysis technique used is using structural equation modeling (SEM), the calculation process and presentation of analysis reports using Smart Partial Least Squares (PLS) research analysis with the SEM PLS version 4 application.

III. RESULTS AND DISCUSSION

A. Results

1. Characteristics of Respondents based on Gender

The distribution of respondents based on gender can be seen in the table 3.1 below

Table 1 Characteristics of Respondents Based on Gender

Gender	Frequency	Percentage (%)
Male	20	50%
Female	20	50%
Total	40	100%

Source: Processed primary data (2024)

The characteristics of respondents based on gender above, it can be seen that the number of male respondents (employees) is 50% and female respondents are 50%.

2. Characteristics of Respondents based on Age

The distribution of respondents by age can be seen in the table 3.2 below.

Table 2 Characteristics of Respondents Based on Age

<i>Age</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>20 - 30</i>	<i>6</i>	<i>15%</i>
<i>31 - 40</i>	<i>28</i>	<i>70%</i>
<i>41 - 50</i>	<i>5</i>	<i>12.5%</i>
<i>>51</i>	<i>1</i>	<i>2.5%</i>
<i>Total</i>	<i>40</i>	<i>100%</i>

Source: Processed primary data (2024)

Based on the characteristics of respondents according to age, it can be seen that the majority of respondents are 31-40 years old, amounting to 70%.

3. Characteristics of Respondents Based on Education

The distribution of respondents based on their latest education can be seen in the table 3.3 below.

Table 3. Characteristics of Respondents Based on Education

<i>Education</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>SMA</i>	<i>1</i>	<i>2.5%</i>
<i>D III</i>	<i>5</i>	<i>12.5%</i>
<i>D IV</i>	<i>1</i>	<i>2.5%</i>
<i>S 1</i>	<i>33</i>	<i>82.5%</i>
<i>S 2</i>	<i>0</i>	<i>0</i>
<i>Total</i>	<i>40</i>	<i>100%</i>

Source: Processed primary data (2024)

Based on the characteristics of the respondents' latest education, it can be seen that the majority of respondents have the latest education S1 (undergraduate) of 82.5%.

4. Analysis Technic

The Structural Equation Modeling (SEM) method is a combination of mathematical engineering methods and path analysis. Model Scheme in this research, hypothesis testing uses the Partial Least Square (PLS) analysis technique with the smartPLS 4.0 program.

5. Outer Model Testing

a. Convergent Validity

To test convergent validity, the outer loading or loading factor value is used. An indicator is declared to meet convergent validity in the good category if the outer loading value is > 0,7. The following are the loading factor values for each indicator on the research variables:

Table 4 Loading Factor

<i>Variable</i>	<i>Indicator</i>	<i>Loading Factor</i>	<i>Rule of Thumb</i>	<i>Conclusion</i>
<i>Work environment (X1)</i>	<i>X1.1</i>	<i>0.706</i>	<i>0,7</i>	<i>Valid</i>
	<i>X1.4</i>	<i>0.871</i>	<i>0,7</i>	<i>Valid</i>
	<i>X2.5</i>	<i>0.878</i>	<i>0,7</i>	<i>Valid</i>
	<i>X2.6</i>	<i>0.776</i>	<i>0,7</i>	<i>Valid</i>
	<i>X2.7</i>	<i>0.934</i>	<i>0,7</i>	<i>Valid</i>
<i>Work facilities (X2)</i>	<i>X2.1</i>	<i>0.930</i>	<i>0,7</i>	<i>Valid</i>
	<i>X2.2</i>	<i>0.753</i>	<i>0,7</i>	<i>Valid</i>
	<i>X2.3</i>	<i>0.728</i>	<i>0,7</i>	<i>Valid</i>
<i>Work motivation (z)</i>	<i>Z11</i>	<i>0.714</i>	<i>0,7</i>	<i>Valid</i>
	<i>Z12</i>	<i>0.884</i>	<i>0,7</i>	<i>Valid</i>
	<i>Z13</i>	<i>0.943</i>	<i>0,7</i>	<i>Valid</i>
	<i>Z14</i>	<i>0.761</i>	<i>0,7</i>	<i>Valid</i>
	<i>Z15</i>	<i>0.840</i>	<i>0,7</i>	<i>Valid</i>
<i>Employee Performance (Y)</i>	<i>Y11</i>	<i>0.959</i>	<i>0,7</i>	<i>Valid</i>
	<i>Y14</i>	<i>0.961</i>	<i>0,7</i>	<i>Valid</i>
	<i>Y15</i>	<i>0.930</i>	<i>0,7</i>	<i>Valid</i>
	<i>Y16</i>	<i>0.961</i>	<i>0,7</i>	<i>Valid</i>

Data Source: 2024 PLS Data Processing Results

Based on table 3.5 work environment variables are measured by 5 (five) valid measurement items with outer loading between 0.706-0.934, work facility variables are measured by 3 (three) valid measurement items with outer loading between 0.728-0.930, employee performance variables are measured by 4 (four) valid measurement

items with outer loading between 0.930-0.961, work motivation variables are measured by 5 (five) valid measurement items with outer loading between 0.714-0.934..

b. Average Variance Extracted (AVE)

Apart from observing the cross-loading value, discriminant validity can also be determined through other methods, namely by looking at the average variant extracted (AVE) value for each indicator, the required value must be > 0.5 for a good model.

Table 5 Average Variant Extracted (AVE)

<i>Variable</i>	<i>AVE</i>
<i>Work facilities</i>	<i>0.654</i>
<i>Employee Performance</i>	<i>0.908</i>
<i>Work environment</i>	<i>0.701</i>
<i>Work motivation</i>	<i>0.693</i>

Data Source: 2023 PLS Data Processing Results

Based on table 3.6 the test results that the Average Variance Extracted (AVE) value of all statement items is > 0.5, it can be concluded that all statement items are declared convergent valid.

c. Discriminant Validity

In this section, the results of the discriminant validity test will be described. The discriminant validity test uses cross loading values. An indicator is declared to meet discriminant validity if the cross loading value of the indicator on the variable is the largest compared to other variables. The following is the cross loading value of each indicator :

Table 6 Cross Loading

<i>Indicator</i>	<i>Work facilities</i>	<i>Employee Performance</i>	<i>Work environment</i>	<i>Work motivation</i>
<i>X11</i>	<i>0.349</i>	<i>0.309</i>	<i>0.706</i>	<i>0.427</i>
<i>X14</i>	<i>0.697</i>	<i>0.618</i>	<i>0.871</i>	<i>0.766</i>
<i>X15</i>	<i>0.461</i>	<i>0.693</i>	<i>0.878</i>	<i>0.729</i>
<i>X16</i>	<i>0.247</i>	<i>0.504</i>	<i>0.776</i>	<i>0.563</i>
<i>X17</i>	<i>0.482</i>	<i>0.741</i>	<i>0.934</i>	<i>0.826</i>
<i>X21</i>	<i>0.930</i>	<i>0.322</i>	<i>0.423</i>	<i>0.624</i>
<i>X22</i>	<i>0.753</i>	<i>0.363</i>	<i>0.757</i>	<i>0.634</i>

X23	0.728	0.378	0.129	0.582
Y11	0.317	0.959	0.787	0.720
Y14	0.520	0.961	0.595	0.766
Y15	0.332	0.930	0.742	0.602
Y16	0.520	0.961	0.595	0.766
Z11	0.785	0.262	0.317	0.714
Z12	0.857	0.484	0.585	0.884
Z13	0.702	0.759	0.706	0.943
Z14	0.263	0.755	0.782	0.761
Z15	0.650	0.723	0.872	0.840

Data Source: 2023 PLS Data Processing Results

Based on table table 3.7 it shows that the loading value of each indicator item on the construct is greater than the cross-loading value. Thus, it can be concluded that all constructs or latent variables have good discriminant validity, where in the block the construct indicators are better than the other block indicators.

d. Composite Reliability and Cronbach’s Alpha

Besides construct validity testing, construct reliability testing was also carried out as measured by composite reliability and Cronbach's alpha of the indicator block that measures the construct. The following are the results of composite reliability and Cronbach's alpha testing from Smart PLS:

Table 7 Composite Reliability and Cronbach’s Alpha

<i>Variable</i>	<i>Composite Reliability</i>	<i>Rule of Thumb</i>	<i>Cronbach’s Alpha</i>	<i>Rule of Thumb</i>	<i>Conclusion</i>
<i>Work facilities</i>	0.725	0,7	0.726	0,6	<i>Reliable</i>
<i>Employee Performance</i>	0.970	0,7	0.966	0,6	<i>Reliable</i>
<i>Work environment</i>	0.927	0,7	0.893	0,6	<i>Reliable</i>
<i>Work motivation</i>	0.909	0,7	0.888	0,6	<i>Reliable</i>

Data Source: 2024 PLS Data Processing Results

A variable is declared reliable if it has a composite reliability value above 0.7 and Cronbach's alpha above 0.60. From the SmartPLS output results above, all variables have composite reliability values above 0.70 and Cronbach's alpha above 0.60. So it can be concluded that validity has good reliability.

6. Inner Model Testing

This research will explain the results of the path coefficient test, R-square, f-square, goodness of fit test, Q-square and hypothesis test.

a. Determination Coefficient (R²) Test Results

The determination coefficient (R-Square) is used to measure how much endogenous variables are influenced by other variables. Based on data processing that has been carried out using the SmartPLS program, the R-Square values are obtained as follows:

Table 8. R-Square Value

<i>Variable</i>	<i>R-Square</i>
<i>Employee Performance</i>	<i>0,625</i>
<i>Work Motivation</i>	<i>0,810</i>

Data Source: 2024 PLS Data Processing Results

Based on table 3.9 it can be concluded that employee performance is 0.625, meaning that the ability of variables X1 and X2 through Z to explain Y is 62.5% (moderate). That work motivation is 0.810, meaning that the ability of variables X1 and X2 to explain Z is 81% (strong).

b. Effect Size (f²) Results

The change in the R-square value can be used to determine whether the influence of exogenous latent variables on endogenous latent variables has a substantive impact. Therefore, it is necessary to measure the effect size (f²), with the recommended values for exogenous latent variables being 0.02 (small), 0.15 (moderate), and 0.35 (large) (Cohen, 1998).

Table 9 f-Square Value

<i>Variable</i>	<i>f-Square</i>
<i>Work facilities → Employee Performance</i>	<i>0.080</i>
<i>Work facilities → Work Motivation</i>	<i>0.743</i>
<i>Work Environment → Employee Performance</i>	<i>0.051</i>
<i>Work Environment → Work Motivation</i>	<i>1.191</i>
<i>Work Motivation → Employee Performance</i>	<i>0.293</i>

Data Source: 2024 PLS Data Processing Results

c. Predictive Relevance Test (Q²)

The Q-Square value has the same meaning as coefficient determination (R-Square) in regression analysis, where the higher the Q-Square, the better or more fit the model can be to the data.

The results of calculating the Q-Square value are as follows:

$$\begin{aligned}
 \text{Q-Square} &= 1 - [(1 - R_1^2) \times (1 - R_2^2)] \\
 &= 1 - [(1 - 0,810)(1 - 0,625)] \\
 &= 1 - (0.19)(0,375) \\
 &= 1 - 0,07125 \\
 &= 0,92875
 \end{aligned}$$

Q² value greater than 0 (zero) indicates that the model is said to be good enough, while a Q² value of less than 0 (zero) indicates that the model lacks predictive relevance. In this research model, the construct or endogenous latent variable has a Q² value greater than 0 (zero) so that the predictions made by the model are considered relevant.

d. Model Goodness of Fit (GoF)

The goodness of fit assessment is known from the Q-Square value. The Goodness of Fit (GoF) test is used to validate the combined performance of the measurement model and the structural model. The GoF value ranges from 0 to 1, with the interpretation of the values as follows: 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF). The results of calculating the GoF value are as follows:

Table 10 Compare AVE and R-Square Value

<i>Variable</i>	<i>AVE</i>	<i>R-Square</i>
<i>Work Environment</i>	<i>0.701</i>	
<i>Work Facilities</i>	<i>0.654</i>	
<i>Work Motivation</i>	<i>0.908</i>	<i>0.625</i>
<i>Employee Performance</i>	<i>0.693</i>	<i>0.810</i>
<i>Average</i>	<i>0.739</i>	<i>0.7175</i>

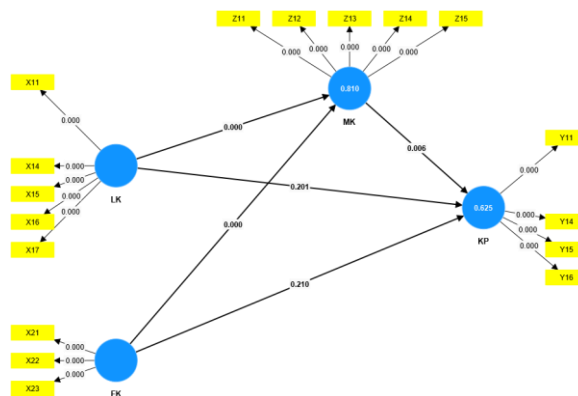
Data Source : 2024 PLS Data Processing Results

$$\begin{aligned}
 \text{GoF} &= \sqrt{\text{AVE} \times \bar{R}^2} \\
 &= \sqrt{0.739 \times 0.7175} \\
 &= 0.7281
 \end{aligned}$$

Based on table 3.11 the calculation results obtained a GoF value of 0.7281, indicating that the combined performance between the outer model and the inner model in this study can be classified into the large GoF category and meets the Goodness of Fit test.

7. Hypothesis Testing

Hypothesis testing was carried out using the bootstrapping resampling method developed by Geisser and Stone. The image below shows the results that this model meets the validity and reliability tests on each path tested :



Model SEM-PLS

Based on the data processing that has been carried out, the results can be used to answer the hypothesis in this research. Hypothesis testing in this research was carried out by looking at the T-Statistics values and P-Values values. The research hypothesis can be declared accepted if the P-Values value is < 0.05 . The following are the results of hypothesis testing obtained in this research through the inner model:

Table. 11 Hypothesis Testing

<i>Hypothesis</i>	<i>Influence</i>	<i>Coefficient</i>	<i>T-statistics</i>	<i>P-Values</i>	<i>Result</i>
<i>H1</i>	<i>Work Environment → Employee Performance</i>	<i>0.244</i>	<i>1.278</i>	<i>0.201</i>	<i>Rejected</i>
<i>H2</i>	<i>Work facilities → Employee Performance</i>	<i>-0.274</i>	<i>1.254</i>	<i>0.210</i>	<i>Rejected</i>
<i>H3</i>	<i>Work Environment → Work Motivation</i>	<i>0.570</i>	<i>8.044</i>	<i>0.000</i>	<i>Accepted</i>
<i>H4</i>	<i>Work facilities → Work Motivation</i>	<i>0.450</i>	<i>4.778</i>	<i>0.000</i>	<i>Accepted</i>
<i>H5</i>	<i>Work Motivation → Employee Performance</i>	<i>0.760</i>	<i>2.756</i>	<i>0.006</i>	<i>Accepted</i>
<i>H6</i>	<i>Work Environment → Employee Performance with Work Motivation as Intervening Variable</i>	<i>0,433</i>	<i>2,662</i>	<i>0,008</i>	<i>Accepted</i>
<i>H7</i>	<i>Work facilities → Employee Performance with Work Motivation as Intervening Variable</i>	<i>0,342</i>	<i>2,115</i>	<i>0,034</i>	<i>Accepted</i>

Data Source : 2024 PLS Data Processing Results

Based on the data presented in the table. 11 above, it can be seen that of the seven hypotheses proposed in this research, they are as follows:

1. Work Environment Variable on Employee Performance is 0.244 (positive), P-Value is 0.201 (not significant).
2. Work Facility Variable on Employee Performance is -0.274 (negative), P-Value is 0.210 (not significant).
3. Work Environment variable on work motivation of 0.570 (positive), P-Value of 0.000 (significant)
4. Work Facility Variable on Work Motivation of 0.450 (positive), P-Value of 0.000 (significant)
5. Work Motivation variable on Employee Performance is 0.760 (positive), P-Value is 0.006 (significant)
6. Work Environment variable on Employee Performance through Work Motivation is 0.433 (positive), P-Value is 0.008 (significant). This means that work motivation variables “play a role” in mediating the effect of Work Environment on Employee Performance.
7. The Work Facility variable on Employee Performance through Work Motivation is 0.342 (positive), with a P-Value of 0.034 (significant). This means that the work motivation variable “plays a role” in mediating the effect of Work Facilities on Employee Performance.

B. Discussion

In this section, will discuss the research hypothesis which is explained as follows:

1. The Influence of Work Environment on Employee Performance

From the analysis of the variable above, the p-value of the work environment is $0,201 > 0,05$. This explains that the work environment has a positive and not significant influence on employee performance. This means that although there are indications that improvements in the work environment may have a positive impact on employee performance, the effect is not strong or consistent enough to achieve improved employee performance. The work environment is one of the important factors in creating employee performance. Because the work environment has a direct influence on employees in completing work which will ultimately improve organizational performance (Sedarmayanti, 2016). This is also reinforced by the results of research (Asfar & Anggraeni, 2020) and (Yantika et al., 2018).

2. The Influence of Work Facility on Employee Performance

Based on the results of the second hypothesis test, the p-value of the facilities is $0.210 > 0.05$. This means that while poor quality work facilities appear to be associated with reduced employee performance, this relationship is not strong or consistent enough to be considered statistically significant. In other words, improvements to work facilities may not substantially improve employee performance in the context of this study, or there are other factors that are more dominant in influencing performance. This contradicts the results of research (Monde et al., 2022) that work facilities have a significant effect on employee performance. Because with the existence of work facilities in a company that can be enjoyed by employees in the form of tools, equipment, objects, and rooms for work, it will cause job satisfaction for employees, of course this has a good impact on the company.

3. The influence of Work Environment on Work Motivation

Referring to the results of the third hypothesis test, the p-values obtained for the work environment (X_1) = $0.000 < 0.05$. The results of the analysis show that the work environment has a significant influence on work motivation. This shows that the work environment is a force that encourages the spirit that is inside and outside him, this is supported by the answers of respondents who mostly stated that the conditions of the work environment consisting of the physical work environment are well maintained, so that employees are motivated to work in completing work because physiological needs, security needs, needs to be liked, self-esteem needs, self-development needs are met. The results of this study support the opinion of Siagian (2018) which states that factors that cause work motivation include good working conditions, especially in terms of the physical work environment.

4. The influence of Work Facility on Work Motivation

Based on the results of the fourth hypothesis test, the p-value of the workload variable (X_2) = $0.000 < 0.05$. Based on the results of data processing, it is known that there is an influence of work facilities on work motivation. This finding means that: the positive value indicates that if the value of work facilities increases, then work motivation also increases; the significant value means that work facilities are significant enough to affect work motivation.

To increase work motivation, it would be better for leaders to directly improve these work facilities, especially adding work facilities or repairing work facilities that have been damaged or are not functioning properly (Angrainy et al., 2018). Based on the results of previous research conducted by (Munawirsyah, 2017) and (Damanik, 2019) which states that there is a positive and significant influence between work facilities on work motivation.

5. The influence of Work Motivation on Employee Performance

Based on the results of the fifth hypothesis test, statistically the p-value of the work motivation variable (Z) = $0.006 < 0.05$. This means that the work motivation (Z) has a significant effect on employee performance (Y).

The results of this study support research conducted (Jufrizen, 2021) which states that work motivation shows an increase, employee performance will increase. Work motivation is important in increasing work effectiveness. Because people who have high work motivation will try with all their might so that their work can succeed as well as possible. If their personal needs are met, then they will be able to work harder and more passionately. In relation to efforts to improve employee performance, it requires a number of high work motivations. Therefore, work motivation has a very close relationship to employee performance. Providing individual work motivation to employees will run faster so that employees can work optimally in the company.

6. The influence of Work Environment on Employee Performance with Work Motivation as Intervening Variable

Based on the results of the sixth hypothesis test that the p-value of $0.008 < 0.05$ indicates that the work environment have a significant influence on employee performance through work motivation. A comfortable and conducive work environment can influence employees to be more motivated to improve the quality and quantity of their performance to be more effective and efficient, so that the work environment and work motivation can have an effect on improving employee performance. With the fulfillment of various employee needs, both physiological needs, security needs, needs to be liked, self-esteem needs, self-development needs and supported by a good work environment, it will certainly greatly affect the improvement of employee performance. A pleasant work environment is a key driver for employees to produce peak performance. Likewise, when employees do work, as employees cannot be separated from the various circumstances around where employees work, namely the work environment. As long as employees do work, employees will interact with various conditions that exist in the work environment.

7. The influence of Work Facility on Employee Performance with Work Motivation as Intervening Variable

Based on the results of the sixth hypothesis test that the p-value of $0.034 < 0.05$ indicates that the work facilities have a significant influence on employee performance through work motivation. Based on the results of the study, the effect of work facilities on employee performance mediated by work motivation is

significant. This means that work motivation acts as an intervening variable (mediator), especially in this study. At this stage, adequate work facilities will make employees increase their work motivation so that their performance will increase. Good work facilities owned by the company will increase employee motivation at work in order to achieve better employee performance results (Sukaesih et al, 2019). Based on previous research conducted (Sukaesih et al., 2019) stated that there is a positive and significant influence between work facilities on performance through work motivation.

IV. CONCLUSION

In accordance with the research results described in the previous chapter, several conclusions can be drawn, including:

1. The work environment has a positive and not significant influence on employee performance, which means that while the work environment may have a positive impact on employee performance, this influence is not strong or consistent enough to achieve improved employee performance.
2. Work facilities have a negative and not significant influence on employee performance, which means that although poor quality work facilities seem to be associated with a decrease in employee performance, this relationship is not strong or consistent enough to be considered statistically significant. In other words, improvements to work facilities may not substantially improve employee performance in the context of this study, or there are other factors that are more dominant in influencing performance.
3. Work environment has a positive and significant influence on work motivation, which means that the better the work environment, the better the work motivation of employees.
4. Work facilities have a positive and significant influence on work motivation, which means that the better the work facilities, the better the work motivation.
5. Work motivation has a positive and significant influence on employee performance, which means that the higher the work motivation, the better the employee performance.
6. The work environment has a positive and significant influence on employee performance with work motivation as an intervening variable, which means that a good work environment can motivate employees to work better so as to improve employee performance.
7. Work facilities have a positive and significant influence on employee performance with work motivation as an intervening variable, which means that good work facilities can motivate employees to work better so as to improve employee performance.

A. Suggestions

Based on the conclusions and limitations of the research, the researchers suggest:

The data processing results also show that the work facilities does not have an impact on employee performance. However, it would be beneficial to further evaluate and improve the work facilities so that a better work facilities can enhance employee performance.

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The Moderating Role of Religious Involvement in the Relationship of Spirituality and Religiosity with Integrity among Regional Government Inspectorate Auditors in Indonesia

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ABSTRACT

Purpose: This study discusses the role of spirituality and religiosity in predicting integrity moderated by the religious involvement of local government auditors.

Design/methodology/approach: Data collection was conducted by distributing paper-based questionnaires to 122 local government auditor respondents in two regions in West Java, Indonesia.

Findings: This study found that spirituality and religiosity have a positive and significant relationship with auditor integrity.

Research limitations/implications: Inspectorate in two regions in West Java, Indonesia.

Practical implications: Spirituality and religiosity will increasingly influence the integrity of auditors when accompanied by the auditor's religious involvement.

Originality/value: Religiosity and spirituality have a significant influence on auditor integrity. However, religious involvement only moderates the relationship between religiosity and integrity, not spirituality and integrity.

Paper type: Research paper

Keyword: *Religious Involvement, Spirituality, Religiosity, Inspectorate Auditors.*

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I. INTRODUCTION

Integrity includes one of the important factors that may influence fraud prevention in the audit process (Rifai & Mardijuwono, 2020). By having integrity, auditors are encouraged to be fair and honest and comply with ethical standards, spirit, norms and principles of auditing, namely independence, objectivity, professional behaviour and protection of public interests (Hikmayah & Aswar, 2020; Jelic, 2012). Integrity can be understood as an element of character that underlies professional recognition, a quality that underlies public trust and becomes a benchmark for the public to test all decisions made (Endri, 2020).

Many factors are found to predict auditor integrity. Religiosity is among others believed to have a positive impact on audit quality by encouraging ethical behaviour among auditors (Maulina, Abdullah, & Yusmita, 2023; Sibarani & Anggreani, 2023). In addition, religiosity and love of money affect the ethical crisis of accountants, and hence it is important to emphasize religious values in ethical decision making (Purnamasari, 2022). Religiosity also plays an important role in preventing ethical violations among auditors, where higher levels of religiosity correlate with higher ethical behaviour (Ainy, 2022). Furthermore, religiosity was found to have a positive relationship with fraud prevention efforts, emphasizing the importance of internalizing religious values for auditors to uphold ethical standards in their work (Purnamasari, 2022). On the other hand, the empirical evidence demonstrated that spiritual wellbeing is positively correlated with ethical decision making (Pong & Fong, 2023) while spirituality in the workplace has significant and negative relationship with dysfunctional auditor behaviour

(Kusumo, Koeswoyo, & Handoyo, 2019). In essence, spirituality and religiosity are significantly related to auditor integrity and ethical behaviour.

This study aims to examine the extent to which integrity is predicted by religiosity and spirituality of auditors. Furthermore, the relationship between religiosity and spirituality with auditor integrity will be moderated by religious involvement. The context of this study is local government auditors who work for inspectorate offices in two regions in West Java. This study has several contributions. First, so far there have been many studies that examined the extent to which religiosity and spirituality play a role in predicting auditor integrity. However, research that places religious participation as a moderator for the relationship between religiosity and spirituality with integrity is rarely conducted. Second, this study tests the conceptual framework of the relationship between spirituality and religiosity with auditor integrity moderated by religious involvement in the context of government auditors. The selection of government auditors may enrich the study of factors that play a role as predictors of integrity for government auditors assigned to do audits for public budgets. Third, this research is one of the few studies that places integrity as a dependent variable predicted by some predictors related to religion in a country with the largest Muslim population in the world and the most committed to worship (Edwards, 2024).

A. Literature review

1. Integrity

Integrity is a personal advantage that makes a person live healthier and free from pretense (Gea, 2006). Integrity includes a mindset, attitude, and movement of conscience that is honest, consistent, committed, objective, courageous, disciplined, and responsible (Abdullah, 2019). It also involves a commitment to ethical principles and moral values such as honesty, fairness, and responsibility (Eprianti et al., 2020). The meaning of integrity varies and is related to internal control and external participation in dealing with environmental pressures (Nasution et al., 2022; Endro, 2017). The values of integrity that shape character include honesty, caring, independence, discipline, responsibility, hard work, simplicity, courage, and justice (Bustan & Mailani, 2022).

In the context of Indonesia, considering the importance of integrity both at the individual and organizational levels, the Indonesian government through Permenpan RB Number 90 of 2021 concerning the Development and Evaluation of Integrity Zones Towards Corruption-Free Areas and Clean and Serving Bureaucratic Areas in Government Agencies has established Integrity Zones. Integrity Zone is a predicate given to government agencies where the leadership and staff are committed to realizing Corruption-Free Areas [WBK]/Clean and Serving Bureaucratic Areas [WBBM] through bureaucratic reform. One important aspect in realizing WBK/WBBM is the supervisory aspect. Strengthening the supervisory aspect through the implementation of the Government Internal Supervision System [SPIP] plays an important role in improving the implementation of government that is free from Corruption, Collusion and Nepotism [KKN]. This internal supervision in the regional government [Pemda] environment in Indonesia is represented by the inspectorate which has several internal auditors. At the individual level, the integrity of regional government inspectorate employees is one of the important elements in realizing supervision with integrity to realize the Integrity Zone above. Integrity was found to be one of the factors that can prevent auditors from committing fraud (Rifai & Mardijuwono, 2020). Auditor integrity is also significantly related to audit quality performance which is an important element in preventing fraud. (Hubais, Kadir, & Bilal, 2023).

2. Spirituality and Integrity among Auditor

The relationship between spirituality and integrity of inspectorate auditors can be seen from the perspective of the importance of these two concepts in driving ethics and professional performance. Spirituality, which includes understanding and connecting with higher moral and ethical values, is thought to have a positive and significant relationship with auditor integrity (Winarsih, 2018). Integrity, which includes honesty, consistency, and responsibility in actions and decisions, is very important in the audit context to ensure fairness and transparency (Rifai & Mardijuwono, 2020; Susimartini & Latrini, 2023). When auditors have strong spirituality, they tend to be more reflective and aware of the moral impact of their actions, which encourages them to act with high integrity (Kusumo et al., 2019). The influence of this spirituality can be seen in the auditor's commitment to carry out their duties honestly and fairly, and avoid unethical practices. Thus, spirituality not only strengthens the moral and ethical aspects of individuals, but also improves the quality of supervision and public trust in the inspectorate (Rahmadayanti & Wibowo, 2017). According to Sari and Anik (2022), spiritual intelligence has a positive and significant effect on audit quality, with auditor integrity as a variable that strengthens this influence. With the explanation, this study proposes the first hypothesis:

Hypothesis 1. Spirituality is predicted to have a positive and significant relationship with integrity among government inspectorate auditors.

3. Religiosity and Integrity

Religiosity is believed to have a positive and significant relationship with the integrity of inspectorate auditors (Antonio et al., 2020; Nazariah & Ismayli, 2021). The importance of integrity in the audit profession cannot be separated from the religious values adhered by individuals. Religiosity, which includes beliefs, religious practices, and internalized moral values, may influence the ethical behaviour and professional integrity of auditors (Winarsih, 2018; Nainggolan et al., 2019). Auditors who have high religiosity tend to have a strong moral awareness, which drives them to act honestly, consistently, and responsibly in carrying out their duties (Wiguna & Ariyanto, 2023). According to Alshehri et al. (2020), the way a person views religiosity and practices their beliefs can influence how they develop ethical decisions in the workplace. With this explanation, this study proposes the following hypothesis:

Hypothesis 2. Religiosity is predicted to have a positive and significant relationship with the integrity of government inspectorate auditors.

4. Moderating Role of Religious Involvement

Religiosity refers to a person's level of religious belief and practice, while spirituality includes personal experiences and the search for a deeper meaning in life (Wahyuningsih, 2008; Yunizar & Wicaksono, 2023). Inspectorate auditor integrity is the extent to which auditors adhere to ethical and professional standards in carrying out their duties (Winarsih, 2018). Active involvement in religious activities, such as attending religious services and participating in religious communities may strengthen or weaken the effects of religiosity and spirituality on auditor integrity (Suci et al., 2022). In other words, the higher a person's level of religious involvement, the stronger the influence of their religiosity and spirituality on their professional integrity (Wiguna & Ariyanto, 2023). Therefore, religious involvement plays an important moderator in the relationship of religious beliefs and spiritual practices with integrity among inspectorate auditors. With this explanation, this study proposes the following hypothesis:

Hypothesis 3. Religious involvement is predicted to moderate the relationship of religiosity and spirituality with the integrity of inspectorate auditors.

II. METHODS

A. Sampling Technique

This research was conducted includes a non-experimental quantitative research type. This deductive rational-empirical approach emphasizes the analysis of numerical data processed statistically. This research was conducted at the Inspectorate of Cirebon Regency and Indramayu Regency involving total 122 respondents from auditors and supervisors of regional government affairs organizers or Auditor dan *Pengawas Penyelenggara Urusan Pemerintah Daerah* (PPUPD). The sampling technique used in this study was the saturated sampling method where the entire population was sampled.

B. Data Collection, Measurement and Analysis

The questionnaire was sent directly to the inspectorate office of Cirebon Regency and Indramayu Regency. The respondents were given one week to complete the questionnaire. The questionnaire was divided into four parts, the first and second parts are independent variables of spirituality and religiosity, the third part is a moderating variable of religious involvement, and the last part is a dependent variable of integrity. The questionnaire consists of a five-point Likert-type assessment scale ranging from 1 (strongly disagree) to 5 (strongly agree). Statistical Package for the Social Sciences Version 26 (SPSS Version 26) software, which includes 3 stages of data processing, namely frequency, classical assumption analysis of moderated variables and moderated regression test.

III. RESULTS AND DISCUSSION

A. Finding

In this study, spirituality (X1) and religiosity (X2) include independent variables; religious involvement (Y1) is a moderating variable, while integrity (Y2) is a dependent variable. The results of the descriptive analysis on the spirituality variable showed an overall average of 4.31 or 86.17 point on the basis of 100, on the religiosity variable of 4.50 or 90.05 point, on the religious involvement variable of 3.97 or 79.44 point and on integrity of 4.50 or 90.00 point. This data shows that the respondents have relatively good perceptions to their attitudes and behaviours represented in these four variables. The frequency distribution of respondents' answers to each variable is presented in Table 1.

Table 1. Recapitulation of frequency distribution of respondents' answers

No	Variable	Indicator	Total Respondent Responses										Total Score	Averg. Score	(%)
			SDA (1)		DA (2)		QA (3)		A (4)		SA (5)				
			F	(%)	F	(%)	F	(%)	F	(%)	F	(%)			
1	Spirituality (X1)	X1.1	1	0.43	3	1.29	13	5.60	68	29.31	37	15.95	503	4.12	82.46
		X1.2	0	0.00	7	3.02	18	7.76	66	28.45	31	13.36	487	3.99	79.84
		X1.3	0	0.00	0	0.00	8	3.45	62	26.72	52	22.41	532	4.36	87.21
		X1.4	0	0.00	2	0.86	18	7.76	62	26.72	40	17.24	506	4.15	82.95
		X1.5	0	0.00	1	0.43	15	6.47	78	33.62	28	12.07	499	4.09	81.80
		X1.6	0	0.00	1	0.43	21	9.05	63	27.16	37	15.95	502	4.11	82.30
		X1.7	0	0.00	1	0.43	5	2.16	52	22.41	64	27.59	545	4.47	89.34
		X1.8	0	0.00	0	0.00	1	0.43	46	19.83	75	32.33	562	4.61	92.13
		X1.9	0	0.00	0	0.00	1	0.43	42	18.10	79	34.05	566	4.64	92.79
		X1.10	0	0.00	0	0.00	11	4.74	46	19.83	65	28.02	542	4.44	88.85
		X1.11	0	0.00	0	0.00	7	3.02	58	25.00	57	24.57	538	4.41	88.20
<i>Average of the Spirituality variable (X1)</i>												525.6	4.31	86.17	
2	Religiosity (X2)	X2.1	0	0.00	0	0.00	1	0.43	55	23.71	66	28.45	553	4.53	90.66
		X2.2	0	0.00	0	0.00	4	1.72	52	22.41	66	28.45	550	4.51	90.16
		X2.3	0	0.00	0	0.00	1	0.43	61	26.29	60	25.86	547	4.48	89.67
		X2.4	0	0.00	0	0.00	3	1.29	54	23.28	65	28.02	550	4.51	90.16
		X2.5	0	0.00	0	0.00	1	0.43	44	18.97	77	33.19	564	4.62	92.46
		X2.6	0	0.00	1	0.43	2	0.86	41	17.67	78	33.62	562	4.61	92.13

X2.7	0	0.00	1	0.43	5	2.16	51	21.98	65	28.02	546	4.48	89.51
X2.8	0	0.00	0	0.00	1	0.43	51	21.98	70	30.17	557	4.57	91.31
X2.9	0	0.00	2	0.86	9	3.88	53	22.84	58	25.00	533	4.37	87.38
X2.10	0	0.00	0	0.00	10	4.31	59	25.43	53	22.84	531	4.35	87.05
<i>Average of the Religiosity variable (X2)</i>											549.30	4.50	90.05

3	<i>Religious Involvement (Y1)</i>	Y2.1	0	0.00	1	0.43	27	11.64	75	32.33	19	8.19	478	3.92	78.36
		Y2.2	0	0.00	0	0.00	3	1.29	54	23.28	65	28.02	550	4.51	90.16
		Y2.3	0	0.00	3	1.29	37	15.95	58	25.00	24	10.34	469	3.84	76.89
		Y2.4	0	0.00	0	0.00	27	11.64	64	27.59	31	13.36	492	4.03	80.66
		Y2.5	0	0.00	13	5.60	38	16.38	55	23.71	16	6.90	440	3.61	72.13
		Y2.6	0	0.00	9	3.88	30	12.93	59	25.43	24	10.34	464	3.80	76.07
		Y2.7	0	0.00	24	10.34	45	19.40	42	18.10	11	4.74	406	3.33	66.56
		Y2.8	1	0.43	0	0.00	5	2.16	58	25.00	58	25.00	538	4.41	88.20
		Y2.9	0	0.00	8	3.45	31	13.36	55	23.71	28	12.07	469	3.84	76.89
		Y2.10	0	0.00	1	0.43	7	3.02	53	22.84	61	26.29	540	4.43	88.52
<i>Average of the Religious Involvement variable (Y1)</i>											484.60	3.97	79.44		

4	<i>Integrity (Y2)</i>	Y2.1	0	0.00	0	0.00	1	0.43	45	19.40	74	31.90	553	4.53	90.66
		Y2.2	0	0.00	0	0.00	1	0.43	48	20.69	71	30.60	550	4.51	90.16
		Y2.3	0	0.00	0	0.00	2	0.86	31	13.36	87	37.50	565	4.63	92.62
		Y2.4	0	0.00	0	0.00	2	0.86	51	21.98	67	28.88	545	4.47	89.34
		Y2.5	0	0.00	0	0.00	2	0.86	49	21.12	69	29.74	547	4.48	89.67

Y2.6	0	0.00	0	0.00	1	0.43	43	18.53	76	32.76	555	4.55	90.98
Y2.7	0	0.00	0	0.00	24	10.34	46	19.83	50	21.55	506	4.15	82.95
Y2.8	0	0.00	0	0.00	3	1.29	37	15.95	80	34.48	557	4.57	91.31
Y2.9	0	0.00	0	0.00	2	0.86	37	15.95	81	34.91	559	4.58	91.64
Y2.10	0	0.00	0	0.00	1	0.43	45	19.40	74	31.90	553	4.53	90.66
<i>Average of the Integrity variable (Y2)</i>											549.0	4.50	90.00
											0		

a. Classical Assumption Analysis of Moderator

As this study used survey method in data collection, the analysis of the classical assumption of moderating variables involved several stages of testing. The stages of testing carried out are as follows:

1. Validity Test

Validity Test is used to ensure that the research tool measures exactly what it is intended to measure, so that the results can be trusted and used to make accurate decisions. Validity Test is conducted using IBM Statistical SPSS Version 26 program. This test shows that all questions in each variable meet the valid requirements because all instruments have an r value > r table.

2. Reliability Testing

Reliability testing is used to measure the extent to which a research instrument produces consistent results when used repeatedly under the same conditions. The reliability test produces a Cronbach Alpha value for Spirituality (X1) of 0.843; for Religiosity (X2) of 0.900; for Religious Involvement (Y1) of 0.883; and for Integrity (Y2) of 0.982. Hence it can be stated that all of these instruments are reliable because they have a Cronbach Alpha value greater than 0.60.

Table 2. Reability Test Results

<i>Variables</i>	<i>Cronbach's Alpha</i>	<i>Limitvalue</i>	<i>Status</i>
<i>Spirituality (X1)</i>	<i>.843</i>	<i>.60</i>	<i>Reliable</i>
<i>Religiosity (X2)</i>	<i>.900</i>	<i>.60</i>	<i>Reliable</i>
<i>Religious Involvement (Y1)</i>	<i>.883</i>	<i>.60</i>	<i>Reliable</i>
<i>Integrity (Y2)</i>	<i>.982</i>	<i>.60</i>	<i>Reliable</i>

b. Moderation Regression Test

In this moderation regression test there is regression model 1 i.e. the relationship of spirituality (X1) and religiosity (X2) on integrity (Y).

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2$$

Regression model 1 shows the following results.

Table 3. Regression Analysis of the Influence of Spirituality (X1) and Religiosity (X2) on Integrity (Y)

Coefficients^a

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig
1	(Constant)	-.549	7.130		-.077	.939
	Spirituality	.466	.155	.283	2.995	.003
	Religiosity	.521	.167	.294	3.114	.002

Dependen Variable: Integrity

Table 4. Determination Coefficient of Regression Model 1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.507 ^a	.257	.244	6.39750

a. Predictors: (Constant), Religiosity, Spirituality

This regression analysis shows that the significance value for both independent variables, namely spirituality (X1) of 0.003 and religiosity (X2) of 0.002, is smaller than 0.05. This means that both variables statistically have a significant influence on the dependent variable, namely integrity (Y). This significant influence shows that changes in spirituality and religiosity significantly affect the level of integrity of the inspectorate auditors.

Furthermore, the R Square value of 0.257 indicates that 25.7% of the variability or changes in integrity can be explained by the variables of spirituality and religiosity. In other words, this regression model is able to explain 25.7% of the changes that occur in integrity based on changes in spirituality and religiosity. However, 74.3% of the changes in integrity are caused by other variables not included in this study. This means that there are other factors outside of spirituality and religiosity that also affect auditor integrity.

In Regression Model 2, i.e. the relationship of spirituality (X1), religiosity (X2) on integrity (Y) with religious involvement as a moderating variable (M).

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 M + (\beta_4 X_1 * M) + (\beta_5 X_2 * M)$$

Regression model 2 shows the results as shown in Table 5 below.

Table 5. Regression analysis of the influence of Spirituality (X1), Religiosity (X2) on Integrity (Y) with Religious Involvement as a moderating variable (M)

Coefficients^a

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig
2	(Constant)	-93.160	52.311		-1.781	.078
	Spirituality	-.454	1.291	-.276	-.352	.725

Religiosity	3.314	1.359	1.867	2.439	.016
Religious Involvement	2.629	1.354	1.858	1.942	.055
X1M	.018	.031	.914	.558	.578
X2M	-.071	.033	-3.239	-2.133	.035

a. Dependen Variable : Integrity

Based on the results of the analysis, it can be seen that:

The interaction between Spirituality (X1) and Religious Involvement (M) has a significance value of 0.578, which is greater than 0.05. This indicates that religious involvement does not have a significant moderating effect on the relationship between spirituality and integrity. In other words, whether or not someone is involved in religious activities does not affect how their spirituality impacts their integrity. Thus, religious involvement does not strengthen or weaken the effect of spirituality on auditor integrity.

The interaction between Religiosity (X2) and Religious Involvement (M) has a significance value of 0.035, which is smaller than 0.05. This shows that religious involvement is able to moderate the relationship of religiosity with integrity. This means that active involvement in religious activities can strengthen the association of religiosity with integrity. For example, individuals who are religious and actively involved in religious activities tend to have a higher level of integrity compared to those who are not actively involved.

Furthermore, this study tries to test the extent to which the two independent variables, namely the Spirituality (X1) and Religiosity (X2) variables, contribute to the dependent variable, namely Integrity (Y).

Table 6. Determination Coefficient of Regression Model 2

<i>Model Summary</i>				
<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
2	.559 ^a	.312	.282	6.23381

a. Predictors: (Constant), X2M, Religiosity, Spirituality, Religiosity Involvement, X1M

The R Square value of 0.312 indicates that the contribution of the independent variables, namely Spirituality (X1) and Religiosity (X2), to the dependent variable, namely Integrity (Y), after taking into account the moderating variable of religious involvement (M) is 31.2%. This means that 31.2% of the variation in auditor integrity can be explained by a model that includes spirituality and religiosity moderated by religious involvement. In other words, this model is able to explain almost one-third of the variation in auditor integrity based on spirituality and religiosity moderated by religious involvement. This means that religious involvement has an important role in influencing how spirituality and religiosity impact auditor integrity.

However, 68.8% of the variation in integrity is still explained by other factors not included in this model. This suggests that while spirituality, religiosity, and religious involvement are important factors, there are many other factors that also need to be considered to fully understand what influences the integrity of government inspectorate auditors.

B. Discussion

Regression analysis shows that spirituality and religiosity have a positive and significant relationship with integrity of government inspectorate auditors. The significance value for the spirituality variable (X1) of 0.003 and religiosity (X2) of 0.002, both of which are smaller than 0.05 indicate that changes in spirituality and religiosity significantly affect the level of integrity. The R Square value of 0.257 indicates that 25.7% of the variation in integrity can be explained by the spirituality and religiosity variables.

However, the interaction between spirituality and religious involvement has a significance value of 0.578, which is greater than 0.05. This means that religious involvement does not moderate the relationship between

spirituality and integrity. On the other hand, the interaction between religiosity and religious involvement has a significance value of 0.035, which is smaller than 0.05. This shows that religious involvement is able to moderate the effect of religiosity on integrity. Active involvement in religious activities strengthens the effect of religiosity on auditor integrity.

The R Square value of 0.312 after taking into account the moderating variable of religious involvement indicates that 31.2% of the variation in auditor integrity can be explained by a model that includes spirituality, religiosity, and religious involvement. However, 68.8% of the variation in integrity is still explained by other factors outside this model. This indicates that although spirituality, religiosity, and religious involvement are important factors, many other factors also need to be considered to understand what influences the integrity of inspectorate auditors as a whole.

Overall, these results indicate that religious involvement plays an important role as a moderating variable in the relationship between religiosity and integrity. This means that when auditors have a high level of religiosity and are also actively involved in religious activities, their integrity tends to increase. This finding is consistent with other research that found that auditors' involvement in religious activities such as attending worship, joining a religious community, and participating in religious events strengthens the influence of religious values held by auditors on their ethical behaviour and professional integrity (Winarsih, 2018; Nainggolan et al., 2019). This research finding is also consistent with Hanapiyah et al., (2019) that increasing religiosity and spirituality contribute to reducing corrupt practices and unethical behaviour in organizations. Organizations that encourage religiosity and spirituality tend to have a stronger and more positive organizational culture, which supports ethical behaviour and integrity.

However, the results also show that religious involvement does not have a moderating effect on the relationship between spirituality and integrity. This means that even though the auditors have a high level of spirituality, their involvement in religious activities does not strengthen or weaken the influence of spirituality on their integrity. The reasons why religious involvement does not moderate the relationship between spirituality and integrity may be due to several factors. One of the factors is that spirituality is more personal and internal, while religious involvement is more external and social. Therefore, involvement in religious activities may not have the same effect on internal aspects such as spirituality compared to more structured and doctrinal aspects such as religiosity. According to Zin et al., (2024), these elements of religiosity can be the basis for developing a self-assessment tool for integrity based on religious teachings.

To better understand why religious involvement does not moderate the relationship between spirituality and integrity, further research is necessary. Such research could explore the various factors that influence this relationship, including individual differences in how people internalize spiritual and religious values, the social and cultural contexts in which they operate, and other aspects of their spiritual and religious lives.

By conducting further research, researchers may obtain more comprehensive insights into how religiosity, spirituality, and religious involvement work together to influence auditor integrity, as well as what factors may enhance or weaken these relationships. This will help in designing more effective programs and interventions to enhance professional integrity through a more holistic and integrated approach.

IV. CONCLUSION

The conclusion of this study is that religiosity and spirituality have a significant influence on auditor integrity. However, religious involvement only moderates the relationship between religiosity and integrity, not spirituality and integrity. After accounting for religious involvement, the spirituality and religiosity variables together explain 31.2% of the variation in auditor integrity, while the remaining 68.8% is due to other factors outside this model.

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Work Discipline and Social Capital in Influence Workload and Employee Performance Abstract AI Regional Planning and Development Agency of North Kalimantan Province

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ABSTRACT

Purpose: to explain the Work Discipline and Social Capital in Influence Workload and Employee Performance Abstract AI Regional Planning and Development Agency

Desain / Metodology / Approach: Substructural Path Equation Analysis I, The Influence of Work Discipline on Workload

Finding: The research design uses an explanatory design using mediating variables, namely variables that mediate the relationship between the explanatory variable and the response or dependent variable.

Practical Implication: The research aims to determine work discipline and social capital in influencing the workload and performance of employees of the Regional Planning and Development Agency of North Kalimantan Province.

Originality / Value: This Paper is Original

Paper Type: Research

Keyword: *Work Discipline, Social Capital, Workload, Performance.*

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I. INTRODUCTION

Human resources now play an increasingly important role in the success of an organization's policy or program. Human resource management concerns all human affairs within the organization to play an active role in achieving predetermined goals. Human resource management is a process related to the implementation of management functions ranging from planning, organizing, directing to monitoring which plays an important role effectively and efficiently in achieving individual and organizational goals.

Many experts provide human resource management, such as Irmayani (2021: 1), who mentions a science or method of managing the relationships and roles of resources owned by individuals efficiently and effectively and can be used optimally so that the common goals of the company, employees and society are achieved. to be maximum. Managed so that they have the competencies and expertise needed to support policy or work programs. Human resource management has a strategic focus and synergizes with all the organization's business policies and becomes a business partner that provides solutions to every problem faced by the organization.

The important role of human resources is realized in the implementation of organizational strategy creation activities, activity planning, work implementation and monitoring of business progress to achieve targets. Human resource management has many functions, one of which is the managerial function which consists of planning, organizing, directing and controlling functions. The main aim is to ensure that the government or organization is able to achieve success through its people, to improve the performance, effectiveness and capability of the

organization in achieving its goals and to pay attention to the rights and needs of people in the organization (Suryani & FoEh, 2019: 19).

Job performance is the result of work that can be achieved by a person or group of people in an organization, in accordance with their respective authority and responsibilities to achieve organizational goals legally, without violating the law and in accordance with morals or ethics (Ramadlan, et al. 2020 : 18). If there is no performance then all parts of an organization cannot achieve its goals. In order for someone to have good performance at work, that person must have high enthusiasm and desire to do their job and know the type of work they will do according to the standards and criteria set by the organization. If an organization does not have performance management that provides standards or division of tasks to its employees, organizational performance will be poor and organizational goals will not be achieved optimally. Many factors can influence performance including timeliness, quality, work commitment, independence and effectiveness (Moko, et al. 2021)

There are many opinions that mention factors that influence performance, as stated by Fitriyani (2022: 24) that there are factors that influence performance including communication, job satisfaction, leadership, organizational culture, work motivation, work discipline, compensation, and other factors. One of them is discipline at work. According to Ajabar (2020: 45) discipline is a person's willingness and readiness to obey and adhere to the regulatory norms that apply around him. For example, if an employee is late for work, the impact on the organization may be minimal. However, if you are consistently late for work, it is another problem, because if there is a change, the problem becomes serious considering that it will have a significant impact on work productivity and the morale of other employees.

In essence, humans are not perfect humans who can work continuously without supervision and will be disciplined in carrying out the tasks they are entrusted with. An employee is required to have good awareness and discipline. Good discipline reflects a person's sense of responsibility for the tasks assigned to him. This will encourage work enthusiasm, enthusiasm for work and the realization of performance to achieve goals. Moekijat (2020: 12) "discipline is serious obedience which is supported by awareness of fulfilling one's duties and behaving appropriately according to the rules or behavior that should apply in a particular environment." Jepry, et al. (2020) define "discipline is a sense of obedience and commitment to principles that are seen as obligations, such as doing office work and being present during specified working hours. Employee performance will increase when the level of discipline increases, encouraging employees to always work hard to meet the goals and achievements of the organization."

Measurement of work discipline can be seen based on attendance, compliance with work regulations, compliance with work standards, level of employee alertness, and work ethics (Rivai in Trisantoso, et al. 2022). By having self-awareness of remaining disciplined and complying with applicable regulations, being able to carry out work according to initial planning, always obeying regulations, employee performance will be able to improve so that goal achievement will be achieved. Like the research results of Alwi & Suhendra (2019), Malau & Kasmir (2021), Priyandi, et.al. (2020), and Syardiansah (2022) who prove that work discipline influences employee performance, which means that if discipline increases, employee performance will also increase. Apart from work discipline, there are other factors that can determine good employee performance, namely social capital in the workplace (Ghifary, 2017), social capital is an important factor in creating a safer system. Social capital is described as confidence in social relationships in the environment where an individual is located. This is embedded in the structure of interpersonal relationships between employees and employees, employees and leaders or leaders and employees. Social capital in the workplace places more emphasis on the potential of work groups and patterns of relationships between employees in a work group and between groups with attention to social networks, norms, values and beliefs between fellow employees.

According to Balker (2015), employee social capital is important because it directly influences employee performance. The social capital possessed by employees includes trust, social networks and norms which can be used as an asset or resource that can be invested in the future and is expected to produce results and be used to achieve goals (Ali, et. al., 2013). This means that employees must work together, work together to achieve various things that can be achieved, but with difficulty they cannot do it alone because employees will become better. Ghifary (2017) in his research stated that there are three dimensions of social capital, namely structural social capital, relational social capital and cognitive social capital which separately have a positive influence on employee performance. Hariani (2022) also proved in his research that social capital has a significant influence on employee productivity. Likewise, Prasetya (2021), Wusko and Alfianto (2022) have proven that social capital has an effect on performance.

Apart from work discipline and social capital, there are other factors that can mediate the influence of employee performance, namely workload. According to Mahawati, et al (2021) stated that workload is the volume of work imposed on employees both physically and mentally and is their responsibility. Every job is a burden for the perpetrator and each employee has his own ability to handle his workload as a workload which can be physical, mental or social workload. For example, a heavy worker, such as loading and unloading goods at a port, carries

more physical burdens than mental or social burdens. On the other hand, for an entrepreneur, perhaps his responsibilities are a relatively much greater mental burden. As for social tasks, they face more social burdens.

The workload is felt to be optimal for a person if the right employee is placed in the right job. Many factors that influence a job are considered workload, these factors are external and internal. External factors come from outside the individual such as the type of task itself, the organization and the work environment. Meanwhile, internal factors, namely factors that originate from oneself which have an impact on the body's reactions, can be in the form of somatic factors and psychological factors (Tarkawa in Affendi, et al, 2019: 183). Performance and workload are related to each other, because in a job, especially in determining the right position, it can be seen from the workload first. This is done so that performance improves and they are comfortable with work so that achieving goals becomes effective and efficient. This has been proven by Nurhasanah, et al. (2022), Priyandi, et al. (2020), Malau & Kasmir (2021) that workload has an influence on employee performance.

II. METHODS

Workload is very important for an organization. By providing an effective workload, the organization can know to what extent employees can be given maximum workload and to what extent it will influence performance. Employees who are not disciplined in utilizing their working time will have an impact on the workload piling up, so that it takes more time than the normal time specified to complete the work assigned to them. To the author's knowledge, research on the influence of work discipline on workload has never been conducted, so on this occasion the author wants to know how much influence work discipline has on workload, so the researcher proposes a hypothesis:

H1: Work discipline has a significant effect on workload

The workplace environment where individuals work has a big impact on how someone works, a bad environment will cause discomfort and boredom at work. Discomfort in the workplace will affect the enthusiasm and enthusiasm of employees so that they are more likely to be lazy, which ultimately results in work not being completed and piling up. This buildup of unfinished work adds to the workload of employees. One of the potentials that each individual must have is social capital. If individuals have strong social capital, they will be able to handle the workload that must be completed. No one has ever conducted research to discuss whether social capital influences workload or not, thus this author proposes a hypothesis:

H2: Social capital in the workplace has a significant effect on workload

Performance is very important in an organization, whether government or private institutions, because it requires employees who have high performance but still respect the work of their colleagues to achieve their goals. High performance is very important because achieving high performance can be a source of satisfaction with feelings of joy and pride in being recognized, receiving rewards in the form of commissions, being promoted or having better career opportunities in the future. Therefore, performance evaluation needs to be carried out because it can be used as an adequate incentive standard so that they feel appreciated and understand the contribution made to organizational goals.

Having high discipline at work will make it easier for employees to prepare definite work plans, and all activities can be carried out with certainty. Mangkuprawira (2013) stated that discipline is the nature of individuals who consciously comply with the rules and regulations of certain organizations. Discipline greatly influences performance, because discipline is a form of training to carry out applicable rules. The more disciplined the higher the productivity and performance. Work discipline is very necessary so that employee performance has a strong contribution to performance. Discipline is a person's level of loyalty which is based on awareness and responsibility for their duties and responsibilities in a rational, careful and orderly manner. Discipline is useful for educating employees to comply with and enjoy existing regulations, procedures and policies so as to produce good performance. The higher a person's work discipline, the higher that person's performance will be. Alwi & Suhendra (2019), Malau & Kasmir (2021), Priyandi (2020), Syardiansah (2022) and Sudarsih (2019) in their research results concluded that work discipline has a significant effect on employee performance. Based on the theoretical basis and previous empirical research, the researcher proposed a hypothesis:

H3: Work discipline has a positive and significant effect on performance

Hasbullah (2006) explains that social capital is everything in society that works together towards norms of progress and change which are basically supported by norms such as trust. Akdere (2005) said that organizations are starting to realize the importance of interaction and good relationships between employees at work. The existence of employee social capital is important because it influences employee performance which in turn influences organizational performance as well. According to Coleman (1988), social capital is broader with the concept of vertical, hierarchical institutions regarding the possible impact on negative and positive performance. This was also proven by Hariani (2022) who also proved in his research that social capital has a significant

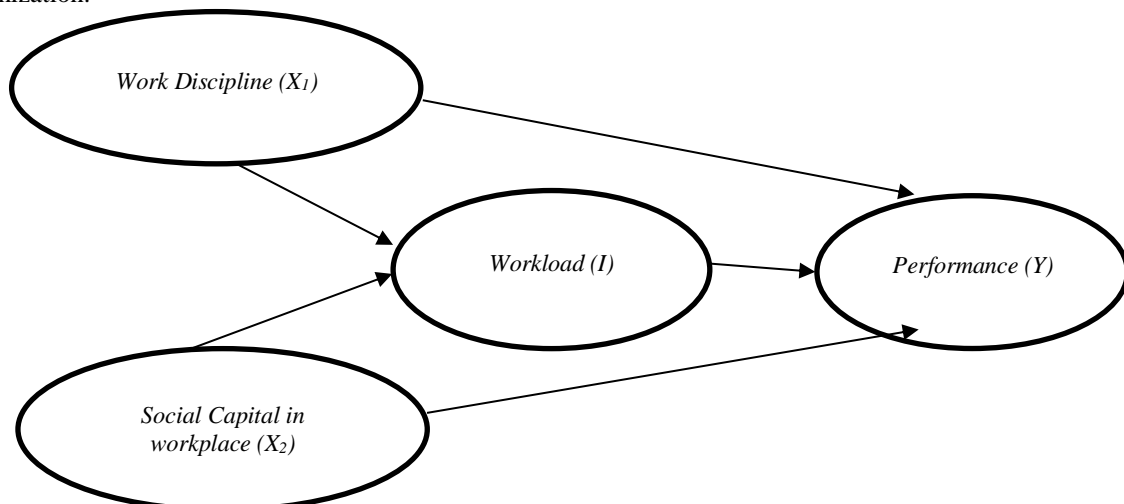
influence on the formation of employee productivity. Likewise, Khoirini & Kartika (2019), Prasetyo (2021) and Wusko & Alfianto (2021) have proven that social capital has an effect on performance. Based on the theoretical basis and previous empirical research, the researchers put forward the hypothesis:

H4: Social capital in the workplace has a significant effect on performance

The success or failure of an organization or agency will be determined by its employees in achieving these goals. Employees can perform well if they show high performance, this also helps them create good work. The development of an organization is also largely determined by the quality of human resources, especially operational efficiency. Therefore, to improve employee performance, an organization needs individuals who demonstrate standard work behavior by generating new ideas and have high work discipline by contributing to achieving goals. The creation of good human resources is based on high employee morale, so that actions always follow the rules with full attention to work.

Social capital in the workplace is an important factor in creating a safer system. Social capital in the workplace is described as trust in social relationships in the environment where individuals are located. This is embedded in the structure of interpersonal relationships between employees and employees, employees and managers, or managers and employees. Social capital in the workplace in work places greater emphasis on the potential of work groups and relationship patterns between employees in one work group and between groups, paying attention to social networks, norms, values and beliefs of co-workers.

Workload is very important, giving too much workload can make employees less productive, but giving too little workload can also make employees quickly bored at work. Therefore, it is very important to allocate the right workload according to employee abilities because it can influence the performance and success of the organization.



From the conceptual framework image above, the author can explain that the work discipline variable will look for its influence on workload and performance. Likewise, the social capital variable in the workplace will also be looked for for its influence on workload and employee performance.

Choosing is part of a solution effort as well as part of the decision making process. Therefore, appropriate purchasing decisions are needed (Kristiawati Indriana et.al. 2019: 28)

III. RESULTS AND DISCUSSION

Based on the goal to be achieved in this research, namely explaining the influence of other variables, this research is considered explanatory research. The population in this research is all employees who work at the North Kalimantan Province Bappeda Office, totaling 58 employees and the entire population is the research sample. Thus, the sampling technique uses census sampling, which is a sampling method where the entire population is used as a research sample. Data collection was carried out by distributing questionnaires that had been developed by previous researchers to research respondents. Based on this research, there are two independent variables, one dependent variable and one intervening/mediation variable. Therefore, the path analysis technique is considered appropriate to use in testing this research hypothesis. This model aims to determine the direct or indirect influence of a set of independent variables (exogenous) on the dependent variable (endogenous). Companies that have competence in the fields of marketing, manufacturing and innovation can make its as a source to achieve competitive advantage (Daengs GS, et al. 2020:1419). The research design is a plan to determine the resources and data that will be used to be processed in order to answer the research question.

(Asep Iwa Soemantri, 2020:5).Standard of the company demands regarding the results or output produced are intended to develop the company. (Istanti, Enny, 2021:560).Time management skills can facilitate the implementation of the work and plans outlined. (Rina Dewi, et al. 2020:14).Saat mengumpulkan sumber data, peneliti mengumpulkan sumber data berupa data mentah. Metode survei adalah metode pengumpulan data primer dengan menggunakan pertanyaan tertulis(Kumala Dewi, Indri et all, 2022 : 29).

Testing is carried out to analyze the pattern of relationships between variables with the aim of determining the direct and indirect influence of a set of exogenous variables on endogenous variables.

a. Substructural Path Equation Analysis I

Testing the influence of work discipline and social capital on workload, the results of sub-structural data processing I with multiple regression are in the following table:

Table 1. Multiple Regression

<i>Model</i>	<i>Unstandardized Coefficient</i>		<i>Standardized Coefficient</i>	<i>t</i>	<i>Sig</i>
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
<i>Constant</i>	22,756	4,409		5,154	0,000
<i>Work Discipline</i>	0,006	0,162	0,008	0,038	0,970
<i>Social capital</i>	0,249	0,193	0,274	1,290	0,202
<i>R</i>			0,280		
<i>R Square</i>			0,079		
<i>Adj. R Square</i>			0,045		
<i>F</i>			2,348		0,000

Dependent Variable: Workload

From the table above, the sub-structural equation I can be written:

$$I = 22,756 + 0,008.X_1 + 0,274.X_2 + \epsilon_1$$

The path coefficient value of the work discipline variable of 0.008 is positive, this shows that increasing work discipline will increase employee workload. In other words, increasing employee work discipline will increase the employee's workload, assuming other factors that influence workload remain constant. The path coefficient value of the social capital variable of 0.274 is positive, this shows that increasing social capital will increase employee workload. In other words, increasing social capital will also increase employee workload, assuming other factors that influence workload remain constant. Based on the results of the t test for the work discipline variable, it is known that the calculated t value = 0.038 with a significance of 0.970 which is greater than 0.05, which means that work discipline has no effect on employee workload. The t test for the social capital variable shows that the calculated t value = 1.290 with a significance of 0.202 which is greater than 0.05, which means that social capital has no effect on employee workload. The two variables do not have a significant influence on workload. Simultaneously, it can be seen that F = 2.345 with a significance of 0.105 > 0.05, meaning that simultaneously the work discipline and social capital variables have no effect on employee workload. The contribution made by the two variables to workload is 0.045, meaning that the workload variable can be explained by work discipline and social capital at 4.5% while the remaining 95.5% is explained by other variables outside this research model.

b. Substructural Path Equation Analysis II

This sub-structural path equation II analysis uses path analysis which aims to test the influence of work discipline and social capital on performance after going through the intervening variable, namely workload.

Table 2. Path Analysis

<i>Model</i>	<i>Unstandardized Coefficient</i>		<i>Standardized Coefficient</i>	<i>T</i>	<i>Sig</i>
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
<i>Model I</i>					
<i>Constant</i>	1,753	3,316		0,529	0,599
<i>Work Discipline</i>	0,425	0,122	0,411	3,479	0,001
<i>Social capital</i>	0,590	0,145	0,482	4,074	0,000
<i>Model II</i>					
<i>Constant</i>	7,944	3,799		2,091	0,041
<i>Work Discipline</i>	0,426	0,115	0,413	3,712	0,000
<i>Social capital</i>	0,658	0,138	0,537	4,756	0,000
<i>Workload</i>	-0,272	0,095	-0,201	-2,855	0,006
	<i>Model I</i>	<i>Model II</i>			
<i>R</i>	0,845	0,867			
<i>R Square</i>	0,715	0,752			
<i>Adj. R Square</i>	0,704	0,738			
<i>F</i>	68,927	54,643			
<i>Sig.</i>	0,000	0,000			

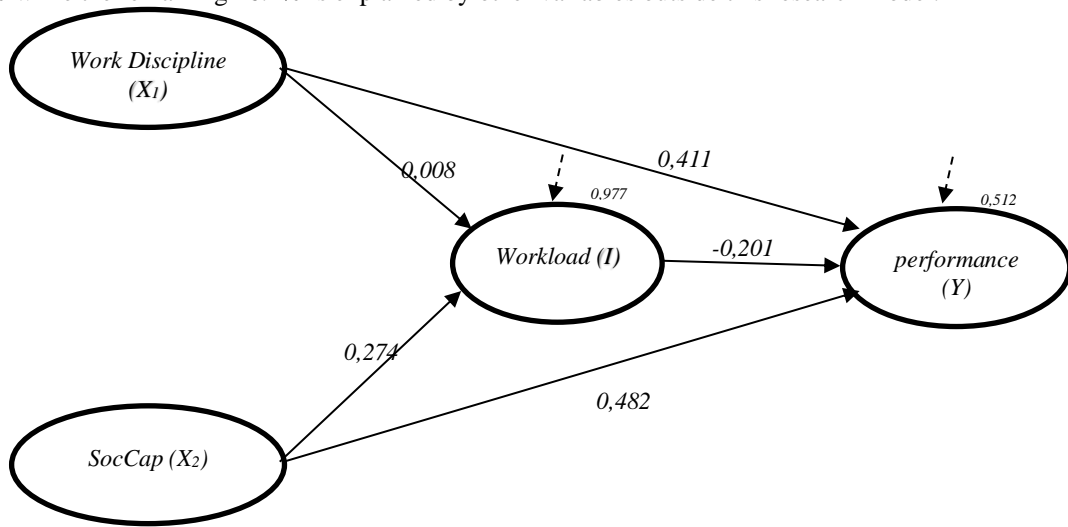
Dependent Variable: Performance

From the table above, sub-structural equation II can be written:

$$Y = 7,944 + 0,413.X_1 + 0,537.X_2 - 0,201.I + \epsilon_2$$

The path coefficient value of the workload variable is -0.201 which is negative, this indicates that increasing workload will reduce employee performance. In other words, the heavier the workload, the employee performance will decrease, assuming other factors that influence employee performance remain constant. Based on the results of the t test model I, it is known that the work discipline variable has a calculated t value = 3.479 with a significance of 0.001, which is smaller than 0.05, which means that work discipline has a direct effect on employee performance. The results of the t test for the social capital variable show that the calculated t value = 4.074 with a significance of 0.000, which is smaller than 0.05, which means that social capital has a direct effect on employee performance. Model 2 shows that the results of the t test for the workload variable show that the calculated t value = -2.855 with a significance of 0.006, which is smaller than 0.05, which means that workload has a direct negative effect on employee performance. Simultaneously, it can be seen that F = 54.643 with a significance of 0.000 < 0.05, meaning that simultaneously the variables of work discipline, social capital and workload have a significant

effect on employee performance. The contribution made by the three variables to employee performance is 0.738, meaning that employee performance variables can be explained by work discipline, social capital and workload of 73.8% while the remaining 26.2% is explained by other variables outside this research model.



Picture 1. Indirect Influence

Table 3. Direct and Indirect Effects

Direction of Influence	Direct Influence	Influence No Direct
<i>Model 1</i>		
Work Discipline → performance	0,411	
Social capital → performance	0,482	
<i>Model 2</i>		
Work Discipline → load → performance		$0,008 \times -0,201 = -0,002$
Social capital → load → performance		$0,274 \times -0,201 = -0,055$

Source: Data processing results

Based on multiple linear regression testing, the first and second equations show the influence of work discipline on the performance of North Kalimantan Province Bappeda employees through workload as an intervening result, the result of multiplying the effects is -0.002. The direct influence between work discipline on the performance of North Kalimantan Province Bappeda employees with a coefficient of 0.411 is greater than the indirect influence between work discipline after going through workload with a coefficient of -0.002 so the direct influence is more dominant than the indirect influence. The effect of social capital on the performance of North Kalimantan Province Bappeda employees through workload as an intervening result is obtained from the multiplication of effects, namely -0.055. The direct influence of social capital on employee performance with a coefficient of 0.482 is greater than the indirect influence of social capital through workload with a coefficient of -0.055, so the direct influence is more dominant than the indirect influence.

1. The Influence of Work Discipline on Workload

The results of this research show that work discipline has no effect on the workload of North Kalimantan Province Bappeda employees, this is shown and proven by obtaining a significance value for the work discipline variable of greater than 0.05. This is not able to prove the hypothesis proposed in this research that work discipline has an effect on workload. Logically speaking, someone who has high discipline in a job will not have a workload on the employee's shoulders. With discipline, an employee can of course calculate the amount of work that must be completed. As stated by Sastrohadiwiro and Syuhada (2021) who stated that a leader's example in working directly has a good effect in the short term in generating strong discipline for employees who complete the workload for which they are responsible every second.

Based on the data collected, it is known that the education level of employees within the Bappeda of North Kalimantan Province still needs to be improved. This is certainly not an exaggeration considering that the North Kalimantan Province Bappeda is a work unit that plays the role of a think tank. Line organization units within the Bappeda of North Kalimantan Province should have a minimum education level of a bachelor's degree with the ability to design plans, process and analyze data. As long as the existing conditions are not changed towards increasing adequate competency, this will not only have an impact on the inefficiency of task completion times, but will also have an impact on the resulting inadequate performance. Contributing to the speed of task completion is the availability of technological support and the competence of human resources to optimize it. In essence, employees who are not disciplined in utilizing working time will have an impact on the workload piling up, resulting in a longer time than the normal working time specified to complete the assigned tasks. According to the author's knowledge, the results of this research are the first to discuss the influence of work discipline on workload. So the results of this research do not yet have support from previous research.

2. The Effect of Social Capital in the Workplace on Workload

The results of this research show that social capital in the workplace has no effect on the workload of North Kalimantan Province Bappeda employees, this is shown and proven by obtaining a significance value for the social capital in workplace variable greater than 0.05. This is not able to prove the hypothesis proposed in this research that social capital in the workplace has an effect on workload. Theoretically, a high level of social capital will make it easier for employees or organizations to achieve goals, and vice versa, low social capital will make it difficult to achieve goals, this can increase workload. However, in reality what happens in the field and the results of data collection state that social capital in the workplace within the Bappeda of North Kalimantan Province has no effect on workload. Employees assume that they do all the work and don't like small talk in the workplace. This means that they work to do their own work without doing anything reckless that could harm other people and trying to create a more inclusive workplace. During the pandemic, all employees supported each other by sharing the workload and giving each other advice. Collaborate with each other and remain creative even when conditions are difficult. Overall, North Kalimantan Province Bappeda employees during last year's pandemic felt socially connected at work, involving each other in all work activities.

3. The Effect of Work Discipline on Performance

The results of this research show that work discipline influences the performance of North Kalimantan Province Bappeda employees, this is shown and proven by obtaining a significance value for the work discipline variable of less than 0.05. This is able to prove the hypothesis proposed in this research that work discipline influences the performance of North Kalimantan Province Bappeda employees. Obtaining this data analysis indicates that the higher the level of employee discipline, the higher the performance, and vice versa, neglected discipline will worsen the performance of the employee and the organization. Work discipline is one of the factors that encourages employees to comply and fulfill organizational demands so that work results will be good and optimal. As Wurwanto (2009) argues, discipline is a condition that causes or encourages employees to act and carry out all activities in accordance with established norms. The assessment of employee discipline can be seen from various factors, including the level of attendance, compliance with work regulations, compliance with work standards, having a level of alertness to avoid mistakes and the next is work ethics. Several of these factors have been distributed to respondents in the form of a questionnaire, and the majority of respondents responded agreeing with the statement about work discipline. These include agreeing to arrive at work early or on time, leaving work according to the return time, always complying with work assignment procedures and not being negligent. Always follow applicable work guidelines, have responsibility for the completion of all work, always be ready to accept sanctions if you make a mistake or violation. Every employee is required to always be careful at work, always try to be careful at work so that undesirable things do not happen. Always try not to violate work discipline and must obey and comply with applicable regulations. In reality, in the field during this research, the level of discipline of North Kalimantan Province Bappeda employees was still less than optimal, such as ignoring compliance factors in carrying out

all applicable regulations and often committing violations related to discipline. In other words, there are still employees who do not understand compliance with official regulations, violate procedures and are not disciplined. For example, employees do not come in at the right working hours or leave earlier than the set working hours. This is most likely also influenced after several years of the Covid-19 pandemic hitting the world, and for several years having to work from home. The results of this research are supported by Alwi & Suhendra (2019), Malau & Kasmir (2021), Priyandi (2020), Syardiansah (2022) and Sudarsih (2019) in their research results who concluded that work discipline has a significant effect on employee performance.

According to Coleman (1988), the definition of social capital is the ability to work together, to achieve common goals, in various groups and organizations. Likewise, Burt (1992) defines social capital as the ability to associate (connect) with each other and then become a very important force not only for economic life but also every other aspect of social existence. Based on the two opinions above, it has been realized in the statements of this research related to social capital, the majority of respondents have given an agreeing response about being a good employee, you must often be active in the office, always take part in training activities to increase your knowledge, always be ready to collaborate with colleagues. work on solving problems. Trust all colleagues in matters of work so that results can be achieved more effectively. Give ideas and thoughts to colleagues without being picky. Ready to give and accept criticism and suggestions from other employees. Always create harmonious and good relationships with all employees. Always communicate with all employees regarding work matters, and always discuss with colleagues the problems they face.

The formation of social capital is the task of leaders who have a direct interest in making every employee perform well in order to achieve targets. The formation of social capital will create better cooperation between employees because they will support each other in doing their work. This collaboration process will result in each employee being able to work well, so that good performance from each employee will be achieved. If employees work well, overall performance targets will be achieved. The results of this research have been supported by several previous researchers, including Hariani (2022), who also proved in his research that social capital has a significant influence on the formation of employee productivity. Likewise, Prasetyo (2021), Khoirini & Kartika (2014), Wusko & Alfianto (2022) have proven that social capital has an effect on performance.

Through this process, employees are given training and development that is relevant to their work performance, so that they are expected to be able to carry out their work responsibilities as well as possible. (Abdul Aziz Sholeh et.al. 2024 :82)

The Research model or framework is intended to further clarify the essence of the discussion of previous research result and the theoretical basis in the research, including the relationship between influential variables. (Enny Istanti, et al. 2024 : 150) This research will be conducted in three phases : measurement model (external model), structural model (internal model), and hypothesis testing. (Pramono Budi, et al., 2023 ; 970) Melalui proses tersebut, karyawan diberikan pelatihan dan pengembangan yang relevan dengan kinerja pekerjaannya, sehingga diharapkan dapat menjalankan tanggung jawab pekerjaannya dengan sebaik - baiknya. (Abdul Aziz Sholeh et.al. 2024 :82) Memilih merupakan bagian dari suatu upaya pemecahan sekaligus sebagai bagian dari proses pengambilan keputusan. Oleh karena itu dibutuhkan keputusan pembelian yang tepat (Kristiawati Indriana et.al. 2019 : 28) Kerja sama antara pemerintah, industri, lembaga penelitian dan masyarakat sipil dalam merancang menerapkan, Komitmen dan kerja sama yang kuat dari seluruh pemangku kepentingan menjadi kunci keberhasilan upaya - upaya tersebut. (Gazali Salim et al. 2024 : 63) The SERVQUAL model includes calculating the difference between the values given by customers for each pair of statements related to expectations and perceptions (Diana Zuhro et al. 2024 : 98)

IV. CONCLUSION

Based on the research results and discussion analysis, research conclusions were obtained to answer the problem formulation, research objectives and proposed hypotheses as follows:

- a. Work discipline has no effect on the workload of Kalimantan Province Bappeda employees and the hypothesis put forward is not proven to be true.
- b. Social capital in the workplace has no effect on the workload of North Kalimantan Province Bappeda employees and the hypothesis proposed is not proven to be true.
- c. Work discipline influences the performance of North Kalimantan Province Bappeda employees and the hypothesis put forward is proven to be true.
- d. Social capital in the workplace influences the performance of North Kalimantan Province Bappeda employees and the hypothesis proposed is proven to be true.

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The Influence of Compensation, Competence, and Workload on Employee Performance with Job Satisfaction as an Intervening Variable

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ABSTRACT

Purpose: The objective of this study is to determine and analyze the influence of compensation, competence, and workload on the performance of employees of the Surabaya City Health Service with job satisfaction as an intervening variable.

Design/methodology/approach: This study uses quantitative data with data collection techniques using questionnaires via Google Form. The study population was all ASN of the Surabaya Health Service with a sample of 56 respondents taken using the Slovin formula. The data analysis method used Structural Equation Modeling (SEM) based on Partial Least Square (PLS).

Findings: The results of the study indicate that the compensation variable has no effect on employee performance, the competency variable has an effect on employee performance, the workload variable has no effect on employee performance, the compensation variable has an effect on job satisfaction, the competency variable has an effect on job satisfaction, the workload variable has an effect on job satisfaction, the job satisfaction variable has an effect on employee performance, the compensation variable has no effect on employee performance with job satisfaction as an intervening variable, the competency variable has no effect on employee performance with job satisfaction as an intervening variable, the workload variable has no effect on employee performance with job satisfaction as an intervening variable.

Paper type: Research paper

Keywords: *Compensation, Competence, Workload, Employee Performance, Job Satisfaction.*

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I. INTRODUCTION

Human Resources (HR) is one of the important components in the management and sustainability of an agency. Therefore, agencies need to pay attention to the condition of their HR or employees whether they have good performance in carrying out the work given (Mahawati et al., 2021). Achieving the goals of an agency does not only depend on the use of modern equipment and adequate facilities and infrastructure, but must also be supported by professional, qualified, reliable human resources who are able to face the changes that occur. The quality and professionalism of human resources are a reference in decision making (Maskuri & Suyanto, 2023).

The Health Office in accordance with Surabaya Mayor Regulation Number 42 of 2011 concerning Details of Duties and Functions of the Surabaya City Health Office has the task of carrying out regional government affairs based on the principle of autonomy and assistance tasks in the health sector. In carrying out their duties, Health Office employees are faced with various challenges including high work demands and heavy burdens of responsibility. In order for employee performance to run optimally, there are several factors that need to be considered, including the appropriateness of compensation, HR competence, workload principles and job satisfaction.

One of the supporters of performance is competence, in an effort to achieve optimal performance, support is needed from employees who have the appropriate competence, so that the results obtained can be effective and efficient. By evaluating individual competence, performance results can be predicted. According to research (Lili et al., 2023) competence can encourage increased performance, the competence possessed by employees creates self-confidence to complete work tasks with good quality, and is ready to help coworkers who need help to complete work or other problems outside of work. This study is in line with (Maskuri & Suyanto, 2023) which states that competence has a positive and significant effect on employee performance, but is contrary to research (R. Hidayat, 2021) which states that competence does not affect performance, this is because the company does not consider the expertise and experience possessed by employees so that employee performance is less than optimal in their fields. The phenomenon that occurs in the Surabaya City Health Office environment related to competence is that some employees have not received appropriate training or competence to support the implementation of the activities they manage and some employees do work that is not in accordance with their competence.

According to (Simamora, 2011) compensation is a reward received by employees in return for their contribution to the organization. Toharo stated that compensation is calculated based on job evaluation, compensation calculation based on job evaluation is intended to obtain compensation that is close to eligibility and fairness. Because if the compensation is felt to be inappropriate and unfair by employees, it is not impossible that this will be a source of social jealousy. Compensation is closely related to employee performance because in every employee performance assessment it is always related to the responsibility of the workload carried out by each individual. Research conducted by (Kumalasari & Efendi, 2022) and (Alfian & Guswinta, 2023) states that compensation has a positive and significant effect on employee performance. However, this study is not in line with previous research (Sugiarti et al., 2021) which states that compensation does not have a direct effect on employee performance.

In addition to compensation in the form of basic salary, the State Civil Apparatus (ASN) of the Surabaya City Health Office also receives additional compensation in the form of TPP (Employee Income Supplement) which refers to the Surabaya Mayor Regulation Number 133 of 2023, this compensation is adjusted to the workload so that it will result in better employee satisfaction and performance. Employee dissatisfaction regarding the provision of compensation and workload can be the initial source of various problems in an agency such as conflicts between employees, conflicts with superiors, increased intensity of absenteeism, work strikes and decreased work motivation. But on the other hand, if the provision of compensation and workload to employees is appropriate, it will have a positive impact on employees such as greater job satisfaction, and high levels of employee performance. The phenomenon that occurred in the Surabaya City Health Office environment was that several employees felt dissatisfied with the amount of compensation, this was because the workload given was not in accordance with the compensation received. Because even though they have ASN status with the same workload, the compensation received between ASN workers with PPPK and PNS status is different, there are also workers with PNS status who feel that the compensation received is not in accordance with the workload given.

According to (Mahawati et al., 2021) workload is something that is automatically attached to individuals who have responsibilities in their work. This burden varies between employees, depending on the type of work and their respective positions. Workload is related to the number of tasks to be done, the availability of time, and the resources available. If these three elements are not balanced, it is likely that the task cannot be completed properly, in other words, employee performance is read as less than good or not optimal. According to research (Sugiarti et al., 2021) and (Maskuri & Suyanto, 2023) workload has a direct effect on employee performance. Meanwhile, research that proves the opposite results was conducted by (Alfian & Guswinta, 2023) which stated that workload does not affect employee performance. Another phenomenon found is that during break time, some employees do not use break time properly and employees are often found working overtime beyond office hours, this is due to the pile of work that employees must complete with a predetermined time limit. The high workload will certainly have a negative impact on employee performance and job satisfaction.

Efforts to improve employee performance among the phenomena that occur above are by analyzing the workload of each employee according to their competence and providing compensation that is in accordance with the workload that has been carried out.

Based on the description above, as well as the gaps in several previous studies, the researcher is interested in conducting a study entitled "The Effect of Compensation, Competence, and Workload on the Performance of Employees of the Surabaya City Health Service with Job Satisfaction as an Intervening Variable".

A. Literature Review

1. Compensation

According to (Simamora, 2011) compensation is compensation received by employees as reply on contribution they to organization. Compensation indicators according to (Simamora, 2011) includes wages and salaries, incentives, allowances and facilities.

2. Competence

According to (Wibowo, 2016) competence is a person's ability to carry out tasks or work based on the skills, knowledge, and attitudes required. Compensation indicators according to Gordon in research (Angga, 2018) include knowledge, understanding, values, abilities, attitudes and interests.

3. Workload

According to (Mahawati et al., 2021) burden Work is something that is automatic attached to the individual who has not quite enough answer in his/her job. Workload indicators related to performance include time load, mental effort load, psychological stress load.

4. Job satisfaction

According to (Kreitner & Kinicki, 2001) job satisfaction is the effectiveness or emotional response to various aspects of work. Indicators of job satisfaction according to Widodo in the study (Silaen et al., 2023) include the work itself, relationships with superiors, coworkers, promotions, salary/wages.

5. Employee Performance

(Ministry of Health of the Republic of Indonesia, 2019) explains that performance is the result of tasks achieved from each employee's activities, as well as carrying out work tasks by using and utilizing organizational resources. Performance indicators according to (Ministry of PANRB of the Republic of Indonesia, 2022) include quantity, quality, time and cost.

B. Conceptual Framework

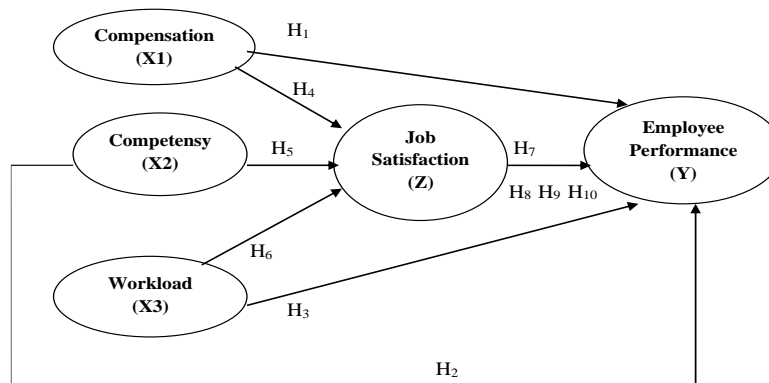


Figure 1. Conceptual Framework

II. METHODS

Types of research This including in category study quantitative. Population in study This is all ASN of Surabaya Health Service. The method of taking sample used is probability sampling with simple random sampling technique, whereas determination big sample use Slovin's formula. Based on results calculation sample, large sample for study This were 56 respondents. Data collection techniques use questionnaire via Google Forms with scale Likert 1-5. Data analysis technique using SEM Partial Least Square (PLS). Data analysis method using outer model and inner model measurements in SEM-PLS applications. Testing hypothesis use bootstrapping resampling method in SEM-PLS application with inspect mark significance (p value) in the coefficient output table path. Significance value (p value) ≤ 0.05 indicates that hypothesis study accepted, while mark significance (p value) > 0.05 means hypothesis study rejected.

III. RESULTS AND DISCUSSION

A. Results

1. Respondent Overview

The location of the study was carried out at the Surabaya City Health Office. The research respondents were ASN employees of the Surabaya Health Office, with the number of respondents analyzed as many as 56 people. This analysis provides simple information from the conditions of respondents such as gender, age, last education, and length of service:

Table 1. Respondent Characteristics

<i>Characteristic</i>	<i>Description</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Gender</i>	<i>Male</i>	12	21%
	<i>Female</i>	44	79%
	<i>Total</i>	56	100%
<i>Age</i>	<i>20 - 30</i>	2	3 %
	<i>31 - 40</i>	25	45%
	<i>41 - 50</i>	23	41%
	<i>>51</i>	6	11%
	<i>Total</i>	56	100%
<i>Latest Education</i>	<i>Senior High School</i>	5	9 %
	<i>Diploma</i>	5	9 %
	<i>Bachelor Degree</i>	40	71%
	<i>Master Degree</i>	6	11%
	<i>Total</i>	56	100%
<i>Length of Service</i>	<i>0 - 5 years</i>	5	9 %
	<i>6 - 10 years</i>	5	9 %
	<i>11 - 15 years</i>	24	43%
	<i>>15 years</i>	22	39%

Total

56

100%

Source: Primary Data, 2024

Based on the data in Table 1, it can be seen that in terms of gender, the majority of respondents in this study were female, with a percentage of 79% (44 people), while only 21% (12 people) were male.

In terms of age, the largest age groups are in the range of 31-40 years (45%) and 41-50 years (41%), while a small portion of respondents are under 30 years old (3%) or over 51 years old (11%). The data shows that most respondents are of productive age.

In terms of education, the majority of respondents have a fairly high level of education, with 71% being D4/S1 graduates and 11% being S2 graduates, while 9% have a high school/vocational high school/equivalent or D3 education. The data shows that the majority of respondents have a strong educational background.

Based on length of service, 43% of respondents have worked for 11-15 years and 39% have worked for more than 15 years, while only 18% have work experience under 10 years. The data shows that most respondents have quite a long work experience.

2. Analysis of Research Results

In SEM PLS analysis, two types of models are formed, namely the measurement model (outer model) and the structural model (inner model).

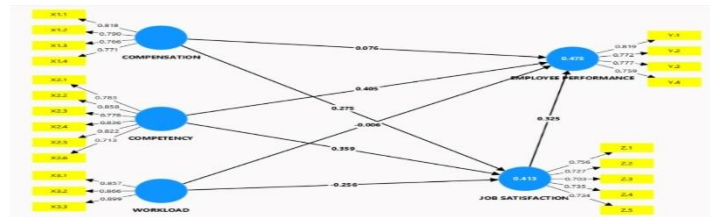


Figure 2. SmartPLS 4 data processing results diagram

3. Outer Model Test Results

a. Convergent Validity

Convergent validity aims to determine the validity of each relationship between indicators and their latent variables. An indicator can be stated to meet convergent validity and has a high level of validity when the outer loadings value is >0.70, while the Average Variance Extracted (AVE) value is >0.50 (Chin & Todd, 1995).

Table 2. Outer Loading Values

Variables	Indicator	Outer Loading	Value Requirements	Conclusion
Compensation (X1)	X1.1	0.818	> 0.70	Valid
	X1.2	0.790	> 0.70	Valid
	X1.3	0.766	> 0.70	Valid
	X1.4	0.771	> 0.70	Valid
Competence (X2)	X2.1	0.783	> 0.70	Valid
	X2.2	0.858	> 0.70	Valid

	X2.3	0.778	> 0.70	Valid
	X2.4	0.836	> 0.70	Valid
	X2.5	0.822	> 0.70	Valid
	X2.6	0.713	> 0.70	Valid
<i>Workload (X3)</i>	X3.1	0.857	> 0.70	Valid
	X3.2	0.866	> 0.70	Valid
	X3.3	0.899	> 0.70	Valid
<i>Job Satisfaction (Z)</i>	Z.1	0.756	> 0.70	Valid
	Z.2	0.727	> 0.70	Valid
	Z.3	0.703	> 0.70	Valid
	Z.4	0.735	> 0.70	Valid
	Z.5	0.724	> 0.70	Valid
<i>Employee Performance (Y)</i>	Y.1	0.819	> 0.70	Valid
	Y.2	0.772	> 0.70	Valid
	Y.3	0.777	> 0.70	Valid
	Y.4	0.759	> 0.70	Valid

Source: SmartPLS 4 data processing results, 2024

Table 3. Average Variance Extracted (AVE) Value

<i>Variables</i>	<i>Average Variance Extracted (AVE)</i>
<i>Compensation</i>	0.619
<i>Competence</i>	0.640
<i>Workload</i>	0.765
<i>Job satisfaction</i>	0.532

Employee Performance

0.611

Source: SmartPLS 4 data processing results, 2024

Based on the data in Tables 2 and 3, all indicators for compensation, competence, workload, job satisfaction, and employee performance variables have outer loading values >0.70 and Average Variance Extracted (AVE) values >0.50. This indicates that the convergent validity of each indicator has been met, so that the indicator is suitable for use in research and can be used for further data analysis.

b. Discriminant Validity

Discriminant validity is carried out to ensure that each concept of each latent model is different from other variables. Discriminant validity testing can be assessed based on the AVE fornell-larcker criterion and cross loading. In the AVE fornell-larcker criterion test, discriminant validity can be said to be good if the root of the AVE on the construct is higher compared to the correlation of the construct with other latent variables, while in the cross loading test it must show a higher indicator value of each construct compared to the indicators on other constructs (Sekaran & Bougie, 2016).

Table 4. Cross Loadings Values

<i>Indicator</i>	<i>Compensation (X1)</i>	<i>Competence (X2)</i>	<i>Workload (X3)</i>	<i>Job Satisfaction (Z)</i>	<i>Employee Performance (Y)</i>
<i>X1.1</i>	0.818	0.563	-0.125	0.428	0.451
<i>X1.2</i>	0.790	0.301	-0.085	0.350	0.204
<i>X1.3</i>	0.766	0.412	0.003	0.357	0.275
<i>X1.4</i>	0.771	0.286	-0.115	0.379	0.396
<i>X2.1</i>	0.299	0.783	-0.269	0.494	0.493
<i>X2.2</i>	0.377	0.858	-0.076	0.365	0.478
<i>X2.3</i>	0.391	0.778	0.019	0.367	0.441
<i>X2.4</i>	0.435	0.836	-0.212	0.531	0.700
<i>X2.5</i>	0.523	0.822	0.005	0.396	0.358
<i>X2.6</i>	0.455	0.713	-0.066	0.361	0.389
<i>X3.1</i>	-0.085	-0.141	0.857	-0.255	-0.200
<i>X3.2</i>	-0.153	-0.114	0.866	-0.293	-0.123
<i>X3.3</i>	-0.056	-0.124	0.899	-0.334	-0.158
<i>Z.1</i>	0.314	0.367	-0.294	0.756	0.355

Z.2	0.288	0.470	-0.079	0.727	0.461
Z.3	0.107	0.421	-0.198	0.703	0.486
Z.4	0.211	0.255	-0.477	0.735	0.303
Z.5	0.717	0.413	-0.228	0.724	0.478
Y.1	0.289	0.505	-0.147	0.496	0.819
Y.2	0.365	0.378	-0.112	0.476	0.772
Y.3	0.328	0.492	-0.227	0.396	0.777
Y.4	0.399	0.548	-0.092	0.451	0.759

Source: SmartPLS 4 data processing results, 2024

Based on the data in Table 4 above, it can be seen that the cross loading value of the indicators on each variable of compensation, competence, workload, job satisfaction and employee performance is always greater than other variables. So it can be concluded that all indicators on each variable have met the discriminant validity.

Table 5. AVE Root Values-Fornell Larcker

<i>Variables</i>	<i>Workload</i>	<i>Job satisfaction</i>	<i>Employee Performance</i>	<i>Compensation</i>	<i>Competence</i>
<i>Workload</i>	0.874				
<i>Job satisfaction</i>	-0.338	0.729			
<i>Employee Performance</i>	-0.183	0.582	0.782		
<i>Compensation</i>	-0.109	0.487	0.442	0.786	
<i>Competence</i>	-0.144	0.537	0.620	0.511	0.800

Source: SmartPLS 4 data processing results, 2024

Based on the data in Table 5 above, it shows that all AVE-Fornell Larcker root values of each construct are greater than the correlation between constructs and other constructs. So it can be concluded that all constructs in the estimated model have met the discriminant validity test criteria.

c. Reliability Test

Reliability testing is conducted to prove the accuracy, consistency, and precision of the instrument in measuring the construct. To be able to meet good reliability, the Composite Reliability value and Cronbach's Alpha value must be greater than 0.70 (Chin, 1998):

Table 6. Cronbach's Alpha, Rho_A and Composite Reliability Values

<i>Variables</i>	<i>Cronbach's Alpha</i>	<i>Composite Reliability (rho_a)</i>	<i>Composite Reliability (rho_c)</i>
<i>Compensation</i>	<i>0.799</i>	<i>0.812</i>	<i>0.866</i>
<i>Competence</i>	<i>0.888</i>	<i>0.908</i>	<i>0.914</i>
<i>Workload</i>	<i>0.846</i>	<i>0.854</i>	<i>0.907</i>
<i>Job satisfaction</i>	<i>0.782</i>	<i>0.787</i>	<i>0.850</i>
<i>Employee Performance</i>	<i>0.788</i>	<i>0.790</i>	<i>0.863</i>

Source: SmartPLS 4 data processing results, 2024

Based on the data from Table 6, it can be seen that each variable of compensation, competence, workload, job satisfaction and employee performance has a Cronbach's Alpha, Composite Reliability (rho_a) and Composite Reliability (rho_c) value >0.7, which means that all variables have met good reliability.

4. Inner Model Test Results

a. Coefficient of Determination (R-square) Test

The R-Square value indicates the level of determination of exogenous variables towards their endogenous ones. According to (Chin, 1998), the R-Square value is categorized as strong if it is more than 0.67, moderate if it is more than 0.33 but lower than 0.67, and weak if it is more than 0.19 but lower than 0.33.

Table 7. R-Square Value

<i>Variables</i>	<i>R-Square</i>	<i>Conclusion</i>
<i>Job satisfaction</i>	<i>0.413</i>	<i>Moderate</i>
<i>Employee Performance</i>	<i>0.475</i>	<i>Moderate</i>

Source: SmartPLS 4 data processing results, 2024

Based on the data presented in table 7 above, it is known that the R-square value for the job satisfaction variable is 0.413, which means that the ability of the compensation, competence and workload variables in explaining the job satisfaction variable has a moderate strength of 41.3%, while the remaining 58.7% is the contribution of other variables not included in the study. The R-square for the employee performance variable is 0.475, which means that the ability of the compensation, competence and workload variables in explaining the employee performance variable has a moderate strength of 47.5%, while the remaining 52.5% is the contribution of other variables not included in the study.

b. Goodness of Fit (GoF) Test

Goodness of Fit (GoF) is a single measure to validate the combined performance of the measurement model and the structural model. The GoF value is obtained from the square root of the average communalities index multiplied by the average R2 value. The GoF value ranges from 0 to 1 with interpretations of values 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF).

Table 9. Comparison of AVE and R-Square Values

<i>Variables</i>	<i>AVE</i>	<i>R-square</i>
<i>Compensation</i>	<i>0.619</i>	
<i>Competence</i>	<i>0.640</i>	
<i>Workload</i>	<i>0.765</i>	
<i>Job satisfaction</i>	<i>0.532</i>	<i>0.413</i>
<i>Employee Performance</i>	<i>0.611</i>	<i>0.475</i>
<i>Total</i>	<i>3.167</i>	<i>0.888</i>

Source: SmartPLS 4 data processing results, 2024

$$\begin{aligned}
 \text{GoF value} &= \sqrt{\text{AVE} \times \bar{R}^2} \\
 &= \sqrt{3,167 \times 0,888} \\
 &= \sqrt{0,6334 \times 0,444} \\
 &= \sqrt{0,2812296} \\
 &= 0.530311
 \end{aligned}$$

Based on the data in Table 9 and the calculation results, the GoF value is 0.530311. This indicates that the combined performance of the outer model and inner model in this study can be classified into the large GoF category.

c. Predictive Relevance Test (Q²)

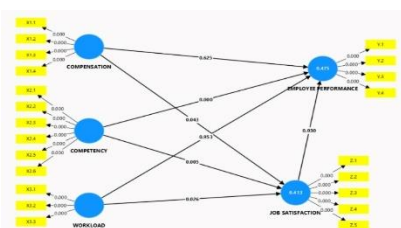
Predictive relevance is a test conducted to show how good the observation value is produced using the blindfolding procedure by looking at the Q-square value. If the Q-square value > 0 then it can be said to have a good observation value, while if the Q-square value < 0 then it can be stated that the observation value is not good.

$$\begin{aligned}
 \text{Q-Square} &= 1 - [(1 - R_1^2) \times (1 - R_2^2)] \\
 &= 1 - [(1 - 0.475^2) \times (1 - 0.413^2)] \\
 &= 1 - (0.774375 \text{ times}) (0, 829431) \\
 &= 1 - 0.642291 \\
 &= 0.357709
 \end{aligned}$$

From the Q-Square calculation above, it is known that the Q-Square value is 0.357709. This shows that the magnitude of the diversity of research data that can be explained by the research model is 35.8%, while the remaining 65.2% is explained by other factors outside this research model. In this research model, the endogenous latent construct or variable has a Q-Square value greater than 0 (zero) so that the predictions made by the model are considered relevant.

5. Hypothesis Testing

Hypothesis testing uses the bootstrapping resampling method in the SEM-PLS application by checking the significance value (p value) in the path coefficient output table.



Picture 3. SEM-PLS Model

Based on the data processing that has been done, the results obtained can be used to answer the hypothesis in this study. The significance value (p value) ≤ 0.05 indicates that the research hypothesis is accepted, while the significance value (p value) > 0.05 means that the research hypothesis is rejected.

Table 9. Hypothesis Testing

<i>Hypothesis</i>	<i>Influence</i>	<i>Original Sample (O)</i>	<i>T-Statistics</i>	<i>P-Values</i>	<i>Conclusion</i>
<i>H1</i>	<i>Compensation → Employee Performance</i>	<i>0.076</i>	<i>0.489</i>	<i>0.625</i>	<i>Rejected</i>
<i>H2</i>	<i>Competence → Employee Performance</i>	<i>0.405</i>	<i>3,661</i>	<i>0.000</i>	<i>Accepted</i>
<i>H3</i>	<i>Workload → Employee Performance</i>	<i>-0.006</i>	<i>0.059</i>	<i>0.953</i>	<i>Rejected</i>
<i>H4</i>	<i>Compensation → Job Satisfaction</i>	<i>0.275</i>	<i>2.022</i>	<i>0.043</i>	<i>Accepted</i>
<i>H5</i>	<i>Competence → Job Satisfaction</i>	<i>0.359</i>	<i>2,829</i>	<i>0.005</i>	<i>Accepted</i>
<i>H6</i>	<i>Workload → Job Satisfaction</i>	<i>-0.256</i>	<i>2.226</i>	<i>0.026</i>	<i>Accepted</i>
<i>H7</i>	<i>Job Satisfaction → Employee Performance</i>	<i>0.325</i>	<i>2.168</i>	<i>0.030</i>	<i>Accepted</i>
<i>H8</i>	<i>Compensation → Job Satisfaction → Employee Performance</i>	<i>0.090</i>	<i>1,499</i>	<i>0.134</i>	<i>Rejected</i>
<i>H9</i>	<i>Competence → Job Satisfaction → Employee Performance</i>	<i>0.117</i>	<i>1,614</i>	<i>0.106</i>	<i>Rejected</i>
<i>H10</i>	<i>Workload → Job Satisfaction → Employee Performance</i>	<i>-0.083</i>	<i>1,347</i>	<i>0.178</i>	<i>Rejected</i>

Source: SmartPLS 4 data processing results, 2024

Based on the data presented in table 5.18 above, the results of the ten hypotheses in this study can be seen, namely:

1. Compensation has a positive effect (0.076) on employee performance and is not significant (P-Value 0.625 > 0.05), so H1 is rejected so it can be stated that compensation does not affect employee performance.
2. Competence has a positive effect (0.405) on employee performance and is significant (P-Value 0.000 < 0.05), so H2 is accepted so it can be stated that competence has an effect on employee performance.
3. Workload has a negative effect (-0.006) on employee performance and is not significant (P-Value 0.953 > 0.05), so H3 is rejected so it can be stated that workload does not affect employee performance.
4. Compensation has a positive effect (0.275) on job satisfaction and is significant (P-Value 0.043 < 0.05), so H4 is accepted so it can be stated that compensation has an effect on job satisfaction.
5. Competence has a positive effect (0.359) on job satisfaction and is significant (P-Value 0.005 < 0.05), so H5 is accepted so it can be stated that competence has an effect on job satisfaction.
6. Workload has a negative effect (-0.256) on job satisfaction and is significant (P-Value 0.026 < 0.05), so H6 is accepted so it can be stated that workload has an effect on job satisfaction.
7. Job satisfaction has a positive effect (0.325) on employee performance and is significant (P-Value 0.030 < 0.05), so H7 is accepted so it can be stated that job satisfaction has an effect on employee performance.

8. The effect of compensation on employee performance through job satisfaction has a positive effect (0.090), and is not significant (P Value $0.134 > 0.05$) meaning that H8 is rejected, this shows that job satisfaction as an intervening variable does not play a role in mediating compensation on employee performance.
9. The influence of competence on employee performance through job satisfaction has a positive influence (0.117), and is not significant (P Value $0.106 > 0.05$) meaning that H9 is rejected, this shows that job satisfaction as an intervening variable does not play a role in mediating competence on employee performance.
10. The effect of workload on employee performance through job satisfaction has a negative effect (-0.083), and is not significant (P Value $0.178 > 0.05$) meaning that H10 is rejected, this shows that job satisfaction as an intervening variable does not play a role in mediating workload on employee performance.

B. Discussion

1. The effect of compensation on employee performance
Analysis of the effect of compensation on employee performance shows an original sample value of 0.076, indicating a positive relationship between the two variables. This means that when compensation increases, employee performance also tends to increase. However, the T-statistic value of $0.489 < 1.96$ and the P-value of $0.625 > 0.05$ indicate that this relationship is not significant. Thus, it can be concluded that compensation has a positive but insignificant effect on employee performance, so the H-1 hypothesis is rejected.
Compensation does not affect the performance of ASN employees at the Surabaya City Health Office, made possible by the high loyalty of employees. Employees prioritize responsibility and completion of tasks according to their duties and functions on time rather than prioritizing the compensation received. Research results This in line with research (Sugiarti et al., 2021). However depart behind with results research (Sukidi & Wajdi, 2017), (A. Hidayat, 2021), (Kumalasari & Efendi, 2022) (Alfian & Guswinta, 2023), (Wilson Seran & Ariyani, 2023) which states that compensation influential positive and significant to performance employee.
2. The influence of competence on employee performance
Analysis of the influence of competence on employee performance shows an original sample value of 0.405, which indicates that the relationship between the two variables is unidirectional/positive. This means that when competence increases, employee performance also tends to increase. The T-statistics result is $3.661 > 1.96$ or P-value is $0.000 < 0.05$, which means that competence significantly affects employee performance. Thus, it can be concluded that competence has a positive and significant effect on employee performance, so that the H-2 hypothesis is accepted.
Competence has a significant effect on employee performance because adequate competence allows employees to work more effectively, make better decisions, and produce higher innovation. Competence also improves work quality, self-confidence, and job satisfaction, all of which contribute to improved overall performance. Although some ASN employees of the Surabaya City Health Office already have the competence to complete their work well, they still need training to support more optimal performance in completing tasks, this can be seen from the results of "Strongly Agree" for the competence statement "I have a high interest in professional development in my field." The results of this study are in line with research (Lili et al., 2023), (Maskuri & Suyanto, 2023). However, it is contrary to the results of research (R. Hidayat, 2021) which states that competence does not affect employee performance.
3. The effect of workload on employee performance
Analysis of the effect of workload on employee performance shows an original sample value of -0.006, which indicates that the relationship between the two variables is negative. This means that when the workload increases, job satisfaction tends to decrease, or vice versa. The T-statistic result is $0.059 < 1.96$ or P-value is $0.953 > 0.05$, which means that the relationship between the workload variable and employee performance is not significant. Thus, it can be concluded that workload has a negative but not significant effect on job satisfaction, so that the H3 hypothesis is rejected.
Workload does not have a significant effect on the performance of ASN employees of the Surabaya City Health Office, which can be caused by several factors, including solid teamwork and employee loyalty. Although the workload increases, good collaboration between team members allows for effective division of tasks, so that work can be completed on time. Another factor is employees who have high motivation and loyalty, who show a sense of responsibility and commitment to work results. Thus, although the workload increases, employee performance also increases, so that they can complete all tasks according to the specified deadline. Research This in line with (Alfian & Guswinta, 2023) which states that burden Work No influential to performance employee.
4. The effect of compensation on job satisfaction
Analysis of the effect of compensation on job satisfaction shows an original sample value of 0.275, which indicates that the relationship between the two variables is unidirectional/positive. This means that when compensation increases, job satisfaction also tends to increase. The T-statistics result is $2.022 > 1.96$ or P-

value is $0.043 < 0.05$, which means that compensation significantly affects job satisfaction. Thus, it can be concluded that compensation has a positive and significant effect on job satisfaction, so that the H4 hypothesis is accepted.

The effect of compensation on job satisfaction is one of the important factors in human resource management, because the right compensation can increase motivation and loyalty. Compensation is the main source of employee income to meet basic needs and lifestyle. So if the compensation received by employees is appropriate, employees tend to feel satisfied because their financial needs have been met. The results of this study are in line with research (Sukidi & Wajdi, 2017), (Jatimoyo, 2019), (Astuti et al., 2023). However, it is contrary to the results of research (Sugiarti et al., 2021) which states that compensation does not have a direct effect on job satisfaction.

5. The influence of competence on job satisfaction

The analysis of the influence of competence on job satisfaction has an original sample value of 0.359, which means that the relationship between the two variables is unidirectional/positive. This means that when competence increases, job satisfaction also tends to increase. The T-statistics result is $2.829 > 1.96$ or P-value is $0.005 < 0.05$, which means that competence significantly affects job satisfaction. Thus, it can be concluded that competence has a positive and significant effect on job satisfaction, so that the H5 hypothesis is accepted. The influence of competence on job satisfaction is closely related to how well employees can meet the demands of their jobs and feel appreciated. Competence includes the abilities, knowledge, skills, and behaviors needed to carry out the assigned tasks optimally. The results of this study are in line with research by (Angga Wahyudi et al., 2022), (Maskuri & Suyanto, 2023) which states that competence has a positive and significant influence on job satisfaction.

6. The effect of workload on job satisfaction

The analysis of the influence of competence on job satisfaction has an original sample value of -0.256, which means that the relationship between the two variables is opposite/negative. This means that when the workload increases, job satisfaction decreases or vice versa. The T-statistic result is $2.226 > 1.96$ or the P-value is $0.026 < 0.05$, which means that workload significantly affects job satisfaction. Thus, it can be concluded that workload has a negative and significant effect on job satisfaction, so that the H6 hypothesis is accepted.

High workload or workload that is not in accordance with employee capacity can significantly reduce job satisfaction because it causes stress, and the inability to achieve work-life balance. In the workload statement, "I often feel that there is not enough time to complete all my tasks," 21 respondents answered quite agree, 14 respondents answered agree, and 1 respondent strongly agree. This shows that the majority of respondents feel that working time in the office is not enough to complete work, and there is a tendency for employees to work overtime to meet the given targets. Employees who do not enjoy rest time, bring work home, or work overtime will feel that their lives are disturbed by work, which is likely to reduce job satisfaction. Research results This in line with research (Jatimoyo, 2019) which states that burden work at Dispendukcapil Regency Blitar it will be very easy influence level satisfaction felt his employees.

7. The influence of job satisfaction on employee performance

The analysis of the influence of job satisfaction on employee performance has an original sample value of 0.325, which means that the relationship between the two variables is unidirectional/positive. This means that when job satisfaction increases, employee performance also tends to increase. The T-statistics result is $2.168 > 1.96$ or P-value is $0.030 < 0.05$, which means that job satisfaction significantly affects employee performance. Thus, it can be concluded that job satisfaction has a positive and significant effect on employee performance, so that the H7 hypothesis is accepted.

Job satisfaction has a major impact on employee performance, as it can create a positive work environment, increase motivation, and drive productivity. Satisfied employees tend to work better, be more motivated, and make greater contributions to the organization. They are also more proactive, creative, and less absent, all of which have a positive impact on overall performance. The results of this study are in line with research (Sukidi & Wajdi, 2017) which states that job satisfaction has a positive and significant effect on employee performance.

8. The Effect of Compensation on Employee Performance with Job Satisfaction as an Intervening Variable

The analysis of the effect of compensation on employee performance through job satisfaction has an original sample value of 0.090, which means that the relationship between the three variables is unidirectional/positive. The T-statistics result of $1.499 < 1.96$ or P-value $0.134 > 0.05$ indicates that this effect is not significant, where job satisfaction as an intervening variable does not play a role in mediating the effect of compensation on employee performance. Thus, it can be concluded that compensation has a positive but not significant effect on employee performance through job satisfaction, so that the H8 hypothesis is rejected. Compensation does not have a significant effect on employee performance when job satisfaction is an intervening variable (connecting or mediator), because there are several factors that influence this

relationship. This explains that the performance of ASN employees of the Surabaya City Health Office, both directly and indirectly, is not influenced by compensation, even though job satisfaction is used as a mediator. Factors such as the work environment, relationships with coworkers and superiors, career development opportunities, and balance between work and personal life may have a greater influence on job satisfaction than compensation. This is not in line with research conducted by (Maskuri & Suyanto, 2023) which states that performance allowances have a positive and significant effect on employee performance with job satisfaction as an intervening variable.

9. **The Influence of Competence on Employee Performance with Job Satisfaction as an Intervening Variable**
The analysis of the influence of competence on employee performance through job satisfaction has an original sample value of 0.1170, which means that the relationship between the three variables is unidirectional/positive. The T-statistics result of $1.614 < 1.96$ or $P\text{-value } 0.106 > 0.05$ indicates that this influence is not significant, where job satisfaction as an intervening variable does not play a role in mediating the influence of competence on employee performance. Thus, it can be concluded that competence has a positive but not significant effect on employee performance through job satisfaction, so that the H9 hypothesis is rejected.

When competence does not affect employee performance with job satisfaction as an intervening variable (connector or mediator), this can be caused by several factors that inhibit the relationship between competence, job satisfaction, and performance. Job satisfaction often depends on many other factors besides competence, such as recognition, work environment, and opportunities for development. If these factors are not met, competence will not result in increased performance, even though employees have sufficient skills and knowledge. If employees feel competent but are not appreciated or do not get recognition for their abilities, this can lead to job dissatisfaction. In this condition, even though employees have high competence, they are not motivated to work harder or more productively because of the dominant sense of dissatisfaction.

10. **The Effect of Workload on Employee Performance with Job Satisfaction as an Intervening Variable**
The analysis of the influence of workload on employee performance through job satisfaction has an original sample value of 0.090, which means that the relationship between the two variables is inversely/negatively proportional. The T-statistics result of $1.499 < 1.96$ or $P\text{-value } 0.134 > 0.05$ indicates that this influence is not significant, where workload as an intervening variable does not play a role in mediating the influence of competence on employee performance. Thus, it can be concluded that workload has a negative and insignificant effect on employee performance through job satisfaction, so that the H10 hypothesis is rejected. The absence of job satisfaction as an intervening variable in mediating the effect of workload on employee performance indicates that the relationship between workload and performance does not depend on the level of job satisfaction. This could be due to various factors, including the employee's ability to manage the workload, individual resilience, or the presence of other variables such as motivation and managerial support that have a greater influence on this relationship. Some employees have good time management and stress management skills, so that even though the workload increases, their performance remains stable. In this case, job satisfaction is not affected because the employee can handle the workload well.

IV. CONCLUSION

From the results of several analysis tests that have been carried out, the following conclusions can be drawn:

1. The compensation variable has a positive and insignificant influence on employee performance.
2. Competency variables have a positive and significant influence on employee performance.
3. The workload variable has a negative and insignificant influence on employee performance.
4. The compensation variable has a positive and significant influence on job satisfaction.
5. Competency variables have a positive and significant influence on job satisfaction.
6. The workload variable has a negative and significant influence on job satisfaction.
7. Job satisfaction variables have a positive and significant influence on employee performance.
8. The compensation variable has a positive and insignificant influence on employee performance with job satisfaction as an intervening variable.
9. The competency variable has a positive and insignificant influence on employee performance with job satisfaction as an intervening variable.
10. The workload variable has a negative and insignificant influence on employee performance with job satisfaction as an intervening variable.

A. Suggestion

1. It is recommended that agencies continue to improve compensation policies in an effort to maintain and increase employee job satisfaction.
2. Competence has been proven to have a positive effect on job satisfaction and performance. Therefore, employee competency training and development need to be prioritized to ensure that employees have the skills needed to achieve optimal performance.
3. Excessive workload can reduce job satisfaction, so better workload management is needed. Arranging a balanced workload that is in accordance with employee capacity is important to maintain job satisfaction and prevent decreased performance.
4. Since job satisfaction has been proven to affect employee performance, efforts are needed to improve job satisfaction which is expected to have an impact on improving performance. This can include improving the work environment, good working relationships between employees and leaders, and providing rewards that are in accordance with work performance.

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The Influence of Competence and Work Environment on the Performance of Family Planning Counselors (PKB) In Surabaya City with Work Motivation as An Intervening Variable

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ABSTRACT

Purpose: This study investigates the influence of competence and the work environment on the performance of Family Planning Counselors (PKB) in Surabaya, with motivation as a mediating variable. It aims to identify critical factors impacting PKB performance and provide recommendations for improvement.

Design/methodology/approach: The study employed Structural Equation Modeling-Partial Least Squares (SEM-PLS) to analyze data collected from 38 PKBs in Surabaya. Data were processed using SmartPLS 4, focusing on the relationships between competence, the work environment, motivation, and performance.

Findings: Competence and the work environment do not significantly influence performance directly. However, both variables significantly impact performance indirectly through motivation, with mediating effects of 64.6% and 16.8%, respectively. Motivation emerged as a critical factor in enhancing performance, emphasizing the need for holistic development strategies.

Research limitations/implications: The study is limited to PKBs in Surabaya, and the findings may not be generalizable to other regions or sectors. Future research should explore additional variables and broader samples.

Practical implications: Organizations should prioritize motivational strategies, competency development, and supportive work environments to enhance employee performance effectively.

Originality/value: This study highlights the mediating role of motivation in linking competence and the work environment to performance, providing insights into optimizing human resource strategies for public service organizations.

Paper type: Research Paper

Keyword: *Competence, Motivation, Performance, Structural Equation Modeling, Work Environment.*

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I. INTRODUCTION

The Family Planning (FP) program in Surabaya, Indonesia, represents one of the government's most strategic efforts to promote reproductive health and control population growth. Despite its importance, the program faces numerous challenges, particularly concerning the performance of Family Planning Counselors (PKB). Issues such as inadequate motivation, insufficient competence, and an unsupportive work environment significantly hinder the effectiveness of PKBs in executing their roles (Dira et al., 2024). These challenges make it critical to understand the interplay of these factors in shaping the performance of PKBs and, ultimately, the success of the FP program.

Surabaya, as Indonesia's second-largest city after Jakarta, has a vital role in supporting national population control initiatives. Geographically, the city spans 7°9' to 7°21' South Latitude and 112°36' to 112°54' East Longitude, bordered by the Madura Strait to the north and east, Sidoarjo Regency to the south, and Gresik Regency to the west. Surabaya's diverse topography, including coastal plains and hilly areas, and its administrative division

into 31 districts and 154 sub-districts, present unique challenges and opportunities for implementing family planning programs effectively.

According to the 2020 Population Census, Surabaya had a population of 2.87 million, with a nearly equal gender distribution. By 2022, this figure increased to approximately 2.99 million, with a crude birth rate (CBR) of 13.46 births per 1,000 residents and a projected Total Fertility Rate (TFR) of 1.79 for 2023. These demographic trends underscore the urgency of effective population control mechanisms to mitigate the adverse effects of rapid growth on development sectors (BKKBN, 2016). As part of the national strategy to balance population growth, the FP program has evolved from focusing solely on birth control to promoting the "Norma Keluarga Kecil Bahagia dan Sejahtera" (NKKBS), or the norm of a small, happy, and prosperous family.

Family Planning Counselors are civil servants at the forefront of the FP program. Their responsibilities include providing education, mobilizing community participation, delivering services, and evaluating program outcomes. As facilitators, motivators, and catalysts, PKBs play a strategic role in encouraging families to adopt FP practices, especially at the grassroots level. However, the scope of their responsibilities often exceeds their capacity. Currently, only 38 PKBs serve the city's 153 sub-districts, translating to a ratio of 0.2 counselors per sub-district. Ideally, each counselor should manage no more than two sub-districts, as stipulated by BKKBN standards (Kusumaningtyas et al., 2023). To meet these standards, Surabaya requires at least 77 PKBs, leaving a significant gap in human resources.

Despite these limitations, Surabaya's FP program has shown notable results. One of the factors contributing to this success is the competence of PKBs. Competence, defined as the knowledge, skills, and attitudes necessary to perform tasks effectively, is crucial for ensuring that counselors can deliver accurate and persuasive messages to the community. However, competence alone is insufficient. Motivation and work environment also play vital roles in determining the effectiveness of PKBs. Motivation, both intrinsic and extrinsic, drives individuals to exert effort and achieve organizational goals, while a supportive work environment provides the necessary tools, relationships, and conditions for optimal performance.

Previous studies highlight the significance of competence in improving employee performance but often overlook the role of motivation and work environment as influencing factors. For example, research by Sudarmanto, Asnawi and Adji (2023), found a positive and significant relationship between competence and the performance of PKBs in Karawang Regency, while other studies Sjarifudin et al. (2023), suggest that competence alone may not significantly impact performance without additional supporting factors. Similarly, while motivation has been widely recognized as a critical driver of employee performance, its role as an intervening variable between competence and work environment remains underexplored, particularly in the context of city-level family planning programs.

This research seeks to address these gaps by investigating the relationships between competence, work environment, and performance, with motivation serving as an intervening variable. By focusing on PKBs in Surabaya, this study aims to provide a comprehensive understanding of the factors that influence their performance and identify strategies to enhance the effectiveness of the FP program. The study draws on established theories of performance. Kohr and Schroeder (2024), categorized performance determinants into individual factors (e.g., ability, skills, experience), psychological factors (e.g., motivation, perception), and organizational factors (e.g., structure, leadership). Meanwhile, Pinata and Sumartik (2023), introduced a performance model incorporating role clarity, competence, environment, values, preferences, and rewards. These frameworks underscore the multifaceted nature of performance and the need to consider a holistic approach when evaluating factors affecting PKBs. Based on the background of the study, the research questions are formulated as follows:

1. Does competence influence the performance of Family Planning Counselors (PKB) in Surabaya?
Competence, which encompasses the knowledge, skills, and attitudes necessary for effective task execution, plays a crucial role in determining employee performance. This research seeks to evaluate the direct relationship between competence and the performance of PKBs in Surabaya.
2. Does competence affect the performance of Family Planning Counselors (PKB) in Surabaya with work motivation as an intervening variable?
Motivation often serves as a bridge that strengthens the link between competence and performance. This study aims to explore whether work motivation mediates the impact of competence on PKB performance, providing a deeper understanding of how intrinsic and extrinsic motivation influences task effectiveness.
3. Does the work environment influence the performance of Family Planning Counselors (PKB) in Surabaya?
The work environment, including facilities, relationships, and management support, significantly impacts employee performance. This question investigates whether a conducive work environment directly contributes to improved performance among PKBs.
4. Does the work environment affect the performance of Family Planning Counselors (PKB) in Surabaya with work motivation as an intervening variable?

The study also examines whether motivation serves as an intermediary factor, enhancing the influence of a supportive work environment on the performance of PKBs. By understanding this dynamic, the research seeks to identify strategies to optimize the work environment to foster higher motivation and better outcomes.

Given the strategic importance of the FP program in controlling population growth and improving quality of life, understanding the factors that influence PKB performance is essential. This study not only fills critical gaps in the literature but also offers practical insights for improving human resource management in public health programs. By enhancing the competence, motivation, and work environment of PKBs, the findings are expected to contribute to more effective program implementation, ultimately benefiting the broader community. In this research, the FP program in Surabaya serves as a vital instrument for addressing population-related challenges and promoting societal well-being. However, the program's success depends heavily on the performance of PKBs. This research aims to provide a nuanced understanding of the factors that drive PKB performance and to propose evidence-based strategies for enhancing their effectiveness.

II. METHODS

This study employs a quantitative descriptive research method with a Structural Equation Modeling (SEM) approach. Descriptive research is designed to describe phenomena, events, and occurrences systematically. Quantitative methods involve recording and analyzing data through statistical calculations. Gress, Hernández-Gress and Contla (2021), emphasizes that quantitative research is rooted in positivist philosophy, targeting specific populations or samples and using statistical analysis to test predetermined hypotheses.

The SEM method was chosen for its capacity to analyze complex relationships between observed and latent variables (McFadden, 2021). This method is suitable for exploring and estimating direct and indirect pathways among variables, enabling the investigation of competence, motivation, work environment, and performance among Family Planning Counselors (PKBs) in Surabaya. SEM offers flexibility in examining relationships and ensures validity and reliability within the model.

The model incorporates the independent variables of competence (X1) and work environment (X2), the intervening variable of motivation (Z), and the dependent variable of PKB performance (Y). SEM helps identify critical factors influencing performance, providing comprehensive insights for developing strategies to improve future outcomes. The research is scheduled to take place from July to August 2024, ensuring that all stages from preparation and data collection to analysis and report writing—are executed thoroughly. The study will be conducted at the Surabaya City Office for Women Empowerment, Child Protection, Population Control, and Family Planning (DP3APPKB). This location is relevant and accessible for collecting accurate, representative data on PKB performance. DP3APPKB plays a crucial role in managing family planning, population control, and family welfare programs, making it an ideal site for this study.

The population includes all 38 Family Planning Counselors (PKBs) serving in various districts across Surabaya. As described by Sugiyono (2013) and Sekaran & Bougie (2010), the population refers to the entire group or entity of interest to the researcher. A total sampling technique is applied, where the sample size equals the total population. This method is chosen because the population size is under 100, making it feasible and statistically valid to include all members. The sample consists of 38 PKBs from across Surabaya, ensuring a representative dataset for analysis. Collected through structured questionnaires distributed to the sample of PKBs. Questions address competencies, motivation, work environment, and performance using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Obtained from reports, documents, and data provided by DP3APPKB Surabaya.

The data is analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS software. This method emphasizes maximizing the variance explained in dependent variables by independent variables. Unlike covariance-based SEM, PLS-SEM focuses on prediction and variability explanation rather than reproducing covariance matrices. The analysis involves the following steps:

1. **Outer Model Testing:** Ensures validity and reliability of research instruments by evaluating convergent and discriminant validity as well as composite reliability.
2. **Inner Model Testing:** Evaluates structural relationships between latent variables using bootstrapping and R-squared values to measure the variance explained by the model.
3. **Hypothesis Testing:** Assesses path coefficients and significance levels ($p < 0.05$) to determine the validity of the proposed hypotheses.

This study is designed to examine the interplay between competence, work environment, motivation, and the performance of Family Planning Counselors (PKB) in Surabaya. Based on theoretical and empirical foundations, four hypotheses have been formulated to explore both direct and mediated relationships between these variables.

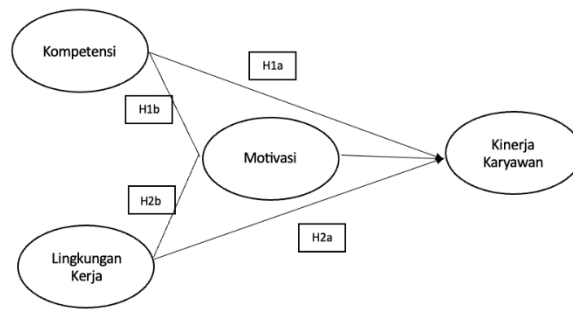


Figure 1. Hypotheses Framework

Source: (Self-Processed, 2024)

The first hypothesis (H1a) suggests that competence has a significant influence on PKB performance. Competence, which includes knowledge, skills, and attitudes, is critical for ensuring effective execution of tasks and responsibilities. As PKBs play a vital role in implementing family planning programs, it is expected that their competence directly impacts their ability to deliver quality counseling and services.

The second hypothesis (H1b) builds upon the first by introducing motivation as an intervening variable. It posits that competence indirectly influences PKB performance through motivation. Motivation is considered a driving force that translates competence into actionable behaviors. Highly motivated individuals are likely to apply their knowledge and skills more effectively, leading to better performance outcomes. This hypothesis explores the dynamic interplay between individual capabilities and the internal drive to achieve organizational goals.

The third hypothesis (H2a) examines the direct relationship between the work environment and PKB performance. A conducive work environment—characterized by adequate facilities, supportive relationships, and effective management practices—is essential for fostering productivity and job satisfaction. This hypothesis seeks to understand whether external factors, such as the physical and social conditions of the workplace, directly contribute to improved performance among PKBs.

Finally, the fourth hypothesis (H2b) explores whether motivation mediates the relationship between the work environment and PKB performance. While a supportive work environment may create favorable conditions for performance, its full impact may be realized through enhanced motivation. When employees feel valued, supported, and equipped with the necessary resources, their intrinsic and extrinsic motivation increases, which in turn drives higher performance levels.

In summary, the hypotheses aim to elucidate both the direct and mediated effects of competence and work environment on PKB performance. By investigating the role of motivation as an intervening variable, this study provides a comprehensive understanding of the factors influencing PKB performance and offers actionable insights for improving the effectiveness of family planning programs in Surabaya.

III. RESULTS AND DISCUSSION

A. Results

The study's respondents comprised 38 Family Planning Counselors (PKB) in Surabaya. Out of these, 33 were female (86.84%), and only 5 were male (13.16%), as detailed in Table 4.4. This highlights the predominance of female counselors in the PKB workforce, consistent with the demographic composition typically seen in roles related to family planning and community outreach. Despite the small workforce, the counselor-to-sub-district ratio in Surabaya remains significantly below the standard, with only 0.2 counselors per sub-district. This falls short of the ideal ratio stipulated by BKKBN regulations, which recommend one counselor for every two sub-districts. The ideal number of PKBs for Surabaya should be 77 counselors, but only 38 PKBs are active, representing 49.35% of the required workforce. Despite this shortage, the PKB program has managed to achieve notable outcomes, demonstrating the effectiveness of existing personnel under challenging conditions. Age Distribution reveals that the majority of respondents are aged 50-59 years (89.47%), with only a small percentage in the 29-39 age range (7.89%) and 40-49 age range (2.63%).

Table 1. Age Characteristics Respondent

<i>Ages</i>	<i>Frequency</i>	<i>Percentage</i>
<i>29-39 years old</i>	<i>3</i>	<i>7.89%</i>
<i>40 - 49 years old</i>	<i>1</i>	<i>2.63%</i>
<i>50 - 59 years old</i>	<i>34</i>	<i>89.47%</i>
<i>Results</i>	<i>38</i>	<i>100,00%</i>

Source: (Self-Processed, 2024)

This indicates that the PKB workforce is aging, with a substantial portion approaching retirement. By 2025, it is projected that 25 PKBs will retire, further exacerbating the workforce shortage. Currently, 16 PKBs fall under the Intermediate Functional category, meaning a significant portion will retire in the near term, highlighting the need for succession planning and recruitment strategies. The educational qualifications of PKBs are presented in Table above. The majority of respondents hold a Bachelor's degree (63.16%), followed by Senior High School/SMK graduates (23.68%), Master's degree holders (10.53%), and a single respondent with a Diploma (2.63%). The dominance of bachelor-level qualifications reflects a reasonably strong educational foundation among PKBs, although ongoing training and professional development remain crucial for maintaining competence and performance.

The analysis of descriptive statistics for the key variables in the study provided valuable insights into the factors influencing the performance of Family Planning Counselors (PKBs) in Surabaya. These variables—competence, work environment, motivation, and performance—were assessed through their respective dimensions and indicators, revealing a comprehensive picture of the current state of PKBs' work and environment. Competence emerged as a critical determinant of PKB performance, evaluated through four dimensions: knowledge, skills, attitude, and experience. The data highlighted strong technical proficiency among the respondents, as both knowledge and skills scored high, reflecting the counselors' ability to perform job-related tasks effectively. While attitude was rated between moderate and high, suggesting a generally positive disposition among PKBs, there remains room for improvement in fostering consistent enthusiasm and commitment. The experience dimension showed that most respondents possessed significant professional exposure, though certain areas, such as adaptability and problem-solving skills, scored moderately, indicating potential gaps in practical expertise. Overall, the competence variable was categorized as "High," signifying that the majority of PKBs have the attributes necessary to effectively execute their roles.

The work environment, another crucial variable, was analyzed through its physical and non-physical aspects. The results demonstrated mixed findings. The physical environment, which included elements like temperature, lighting, and cleanliness, was rated mostly moderate to low. These results reflect dissatisfaction among respondents with the adequacy of the physical workspace, emphasizing the need for improvements to create a more conducive environment for productivity. In contrast, the non-physical environment received ratings from moderate to high, indicating relatively positive interpersonal relationships and management support within the workplace. Although the non-physical environment appears supportive, efforts to enhance both dimensions are essential to ensure a more holistic improvement in workplace satisfaction and employee well-being.

Respondents demonstrated a strong intrinsic and extrinsic drive to achieve professional success, meet performance targets, and actively collaborate with others. High ratings in achievement needs indicated that PKBs are goal-oriented and committed to excelling in their roles, while the high scores for affiliation needs underscored the importance of positive relationships and teamwork. These findings highlight the critical role motivation plays in maintaining high levels of engagement and performance, even in the face of workplace challenges.

1. Outer Model Testing

The outer model testing aims to evaluate the validity and reliability of the measurement model used in the study. Three key criteria were assessed: convergent validity, discriminant validity, and reliability.

a. Convergent Validity

Convergent validity was assessed by examining the loading factors of each indicator relative to its respective variable, as well as the Average Variance Extracted (AVE) values. As per the criteria set by Chin in

(Trenggonowati & Kulsum, 2018), indicators are considered valid if their loading factors exceed 0.5 and their AVE values are above 0.5.

The results, presented in Table below, indicate that all variables and indicators meet these criteria. For instance:

Table 2. Outer Loading and AVE

<i>Variables</i>	<i>Indicator</i>	<i>Outer Loading</i>	<i>AVE</i>
<i>Work Performance (Y)</i>	<i>KI1</i>	<i>0.886</i>	<i>0,802</i>
	<i>KI2</i>	<i>0.901</i>	
	<i>KI3</i>	<i>0.651</i>	
	<i>KI4</i>	<i>0.862</i>	
	<i>KI5</i>	<i>0,911</i>	
<i>Competence (X1)</i>	<i>K1</i>	<i>0.754</i>	<i>0.632</i>
	<i>K2</i>	<i>0,877</i>	
	<i>K3</i>	<i>0,651</i>	
	<i>K4</i>	<i>0,876</i>	
<i>Work Environment (X2)</i>	<i>LK1</i>	<i>0.910</i>	<i>0.857</i>
	<i>LK2</i>	<i>0.941</i>	
<i>Motivation (Z)</i>	<i>M1</i>	<i>0.926</i>	<i>0.855</i>
	<i>M2</i>	<i>0.923</i>	

Source: (Self-Processed, 2024)

1. Performance (Y): The loading factors for its indicators (KI1 to KI5) ranged between 0.651 and 0.911, with an AVE of 0.802.
2. Competence (X1): The indicators (K1 to K4) had loading factors between 0.651 and 0.877, with an AVE of 0.632.
3. Work Environment (X2): Indicators (LK1 and LK2) achieved loading factors of 0.910 and 0.941, respectively, with an AVE of 0.857.
4. Motivation (Z): The indicators (M1 and M2) had high loading factors of 0.926 and 0.923, with an AVE of 0.855.
5. These results confirm that the measurement model has adequate convergent validity, ensuring that the indicators reliably measure their respective latent constructs.

b. Discriminant Validity

Discriminant validity was evaluated by examining the cross-loading values of each indicator. An indicator is considered discriminantly valid if its loading value for its respective variable is higher than its cross-loading values for other variables. The results in table below demonstrate that all indicators meet this criterion, confirming that the variables are distinct and measured accurately.

c. Reliability

Reliability was assessed using Cronbach’s Alpha and Composite Reliability (CR) values. As per Abdillah (2015), variables are considered reliable if Cronbach’s Alpha is greater than 0.6 and CR exceeds 0.7. Table below shows the results:

Table 3. Reliability Testing

Variables	Cronbach's Alpha	Composite Reliability
X1 Competency	0.812	0.871
X2 Work Environment	0.834	0.923
Y Performance	0.938	0.953
Z Motivation	0.830	0.922

Source: (Self-Processed, 2024)

2. Inner Model Test

The inner model or structural model testing focuses on evaluating the relationships between latent variables. The key metrics assessed were the R-squared (R²) values, Q-square, and path coefficients for hypothesis testing.

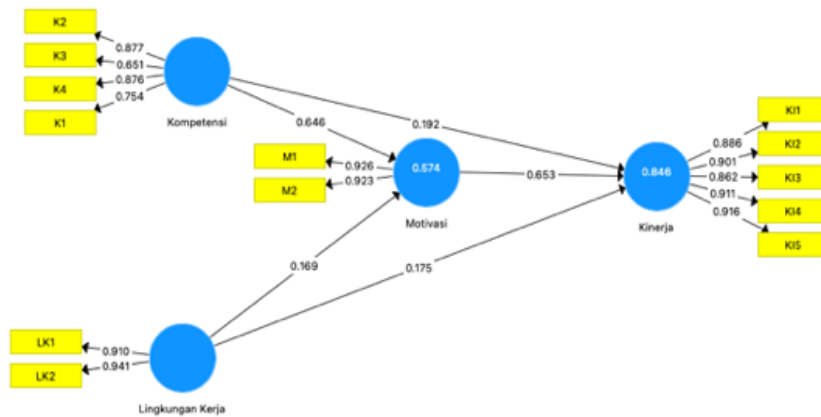


Figure 2. SEM Analysis
Source: (Self-Processed, 2024)

a. R-Squared (R²) Values

The R² values indicate the proportion of variance in the dependent variable explained by the independent variables. Chin (Oktavia et al., 2024) categorizes R² values as follows:

Table 4. R² Values

Variabel	R-Squarae	R-Squarae adjusted
Y Performance	0,846	0,832
Z Motivation	0,574	0,550

Source: (Self-Processed, 2024)

The R² values measure the proportion of variance in dependent variables explained by the independent variables in the model. Based on Chin's classification (Oktavia et al., 2024), R² values are categorized as substantial (≥ 0.67), moderate ($0.33 < 0.67$), and weak (< 0.33). The R² value for performance is 0.846, indicating that 84.6% of the variance in performance is explained by competence, work environment, and motivation. This is a substantial level of explanatory power, signifying that the independent variables are highly effective in predicting the performance of Family Planning Counselors (PKBs) in Surabaya. The R² value for motivation is 0.574, meaning that 57.4% of the variance in motivation is explained by competence and work environment. This is categorized as moderate, showing that the independent variables moderately influence motivation.

b. Hypothesis Testing (Path Coefficient)

The hypotheses were tested using path coefficients and p-values, with a significance level set at 5% ($p < 0.05$). The results, as shown in table below, are as follows:

Table 5. Path Coefficient Results

<i>Variables</i>	<i>Real Sample (O)</i>	<i>Average Sample (M)</i>	<i>Standard Deviation (STDEV)</i>	<i>T Statistic (O/STDEV)</i>	<i>P Value</i>	<i>Desc.</i>
<i>X1 > Y</i>	<i>0.192</i>	<i>0.206</i>	<i>0.104</i>	<i>1.842</i>	<i>0.066</i>	<i>Not significant</i>
<i>X1 > Z > Y</i>	<i>0.646</i>	<i>0.658</i>	<i>0.107</i>	<i>6.049</i>	<i>0.000</i>	<i>Significant</i>
<i>X2 > Y</i>	<i>0.175</i>	<i>0.164</i>	<i>0.121</i>	<i>1.443</i>	<i>0.150</i>	<i>Not significant</i>
<i>X2 > Z > Y</i>	<i>0.169</i>	<i>0.163</i>	<i>0.159</i>	<i>1.061</i>	<i>0.000</i>	<i>Significant</i>

Source: (Self-Processed, 2024)

The results of the hypothesis testing emphasize the importance of motivation as a key mediating variable in the model. While competence and the work environment are essential contributors to performance, their impact is significantly amplified through motivation. This indicates that motivation serves as the driving force that translates individual capabilities and workplace conditions into tangible performance outcomes. The high R² value for performance (0.846) confirms that the model provides a robust explanation for the factors influencing the performance of PKBs in Surabaya. However, the moderate R² value for motivation (0.574) suggests that additional variables, such as organizational culture or leadership style, may also play a role in shaping motivation.

The analysis of hypotheses in this study revealed valuable insights into the relationships between competence, work environment, motivation, and performance. For the first hypothesis (H1a), the results showed that competence does not have a significant direct effect on performance. With a path coefficient of 0.192 and a p-value of 0.066 (above the 0.05 threshold), the data indicates that while competence contributes to performance, its direct influence is not statistically significant. This suggests that other factors, such as motivation, may play a crucial role in bridging the gap between competence and performance outcomes.

In contrast, the second hypothesis (H1b) demonstrated that competence significantly influences performance when mediated by motivation. The path coefficient for this relationship was 0.646, with a highly significant p-value of 0.000. This finding confirms that motivation acts as a strong mediating variable, amplifying the effect of competence on performance. It highlights the importance of fostering motivation to unlock the full potential of employees' competence, ensuring that their skills and knowledge translate into improved performance.

For the third hypothesis (H2a), the work environment was found to have no significant direct effect on performance. The path coefficient of 0.175 and a p-value of 0.150 indicate that simply improving the work environment is insufficient to directly enhance performance. While a supportive work environment is essential, its effects on performance are not automatic and require the involvement of other mediating factors.

The fourth hypothesis (H2b) revealed that the work environment significantly influences performance through motivation. With a path coefficient of 0.169 and a p-value of 0.000, the results underscore the pivotal role of motivation as a mediator. A positive and supportive work environment enhances motivation, which in turn drives better performance. This finding highlights that efforts to improve the work environment should be accompanied by strategies to strengthen employees' motivation, ensuring that workplace enhancements translate into tangible performance gains.

These findings collectively emphasize the importance of motivation in connecting both competence and the work environment to performance. Motivation serves as a critical enabler, ensuring that individual skills and organizational support are effectively channeled into productive outcomes. This underscores the need for organizations to invest in motivational initiatives alongside efforts to improve employee competence and workplace conditions, ultimately leading to sustained performance improvements.

These findings highlight the need for targeted interventions to enhance motivation among PKBs. Strategies could include professional development programs, recognition systems, and creating a more engaging and supportive work environment. By prioritizing motivation, organizations can unlock the full potential of their employees, leading to sustained improvements in performance and program outcomes.

B. Discussion

1. Competence and its Influence on PKB Performance

Competence plays a critical role in determining the performance of Penyuluh Keluarga Berencana (PKB) in Surabaya. The national standard for PKB competence, as outlined in the 2017 BKKBN regulation, includes technical, managerial, and socio-cultural skills. These competencies encompass various responsibilities, from family data collection to program counseling, group facilitation, and collaboration with local stakeholders. Despite these detailed requirements and the significant training efforts reported—ranging from technical skill enhancements to functional workshops—this study found no significant direct influence of competence on PKB performance. Specifically, the p-value of 0.066 (>0.05) suggests that while competence has a slight impact (19.2%), it is insufficient to directly elevate performance levels.

The findings point to possible limitations in resource allocation, excessive administrative burdens, and uneven workload distribution. With only 38 PKBs serving 31 districts and 153 subdistricts, the current staffing levels fall significantly below the optimal ratio stipulated by BKKBN (1 PKB per 2 subdistricts). This discrepancy not only increases workload pressures but also limits the effective application of their competencies. Challenges such as handling extensive administrative work on the SIGA platform and managing diverse community needs further dilute their capacity to translate training into tangible performance improvements. These challenges suggest that competence, while essential, is not the sole determinant of performance.

Interestingly, this study's results align partially with prior research by Kusumaningtyas et al. (2023), in East Java, which highlighted that structural and community-related barriers often constrain PKB performance. Similarly, the research findings emphasized that while competence positively influences performance, its effectiveness is often contingent upon supportive management systems and operational efficiency. Therefore, to maximize the utility of their competencies, Surabaya's PKBs require enhanced managerial support, streamlined administrative processes, and equitable resource distribution.

These findings suggest that competence, though essential, is not a standalone determinant of performance. Several contextual challenges likely constrain its effectiveness. For instance, the ratio of PKBs to operational areas in Surabaya falls short of the ideal standard set by BKKBN (1 PKB per 2 subdistricts). With only 38 PKBs responsible for 153 subdistricts, each counselor must manage an overwhelming workload. This high workload is further exacerbated by administrative duties, such as the extensive use of the SIGA platform for reporting, which often faces technical disruptions (Nguyen, Nguyen and Phan, 2023). These operational inefficiencies hinder the optimal application of competencies, leaving PKBs unable to focus on their core responsibilities (Clauss, 2024).

Previous studies provide further context to these findings. Research by Kusumaningtyas et al. (2023) in East Java highlighted that structural constraints, such as limited resources and poor operational planning, significantly diminish the impact of PKB competencies on their performance. Similarly, a study by Jumawan (2023), found that the decentralization era in East Java introduced additional complexities in the implementation of family planning programs, including uneven resource distribution and inadequate managerial support. These issues resonate with the challenges faced by PKBs in Surabaya, where competence alone cannot overcome systemic barriers.

Furthermore, Mas et al. (2023), emphasized that competence has a more pronounced effect on performance when complemented by robust managerial systems and supportive work environments. Their study in Pematang demonstrated that the integration of training programs with effective management practices significantly enhanced employee performance. In Surabaya, however, the lack of such integration may explain why competence does not exert a significant direct influence.

In light of these findings, it becomes clear that enhancing PKB performance requires a multi-faceted approach. While improving competencies through training remains crucial, it must be accompanied by strategic interventions such as workload redistribution, better resource allocation, and streamlined administrative processes. These measures would enable PKBs to apply their competencies more effectively, translating them into improved performance outcomes.

2. Competence and its Influence on PKB Performance through Motivation

While competence alone does not directly influence performance, this study reveals its significant mediating effect through motivation. The p-value of 0.000 (<0.05) and a mediating influence of 64.6% underscore the pivotal role of motivation in bridging the gap between competence and performance. This finding emphasizes that when PKBs feel empowered and capable, their motivation levels rise, directly impacting their work outcomes.

Training programs such as KIP/Counseling and Advocacy sessions have been instrumental in enhancing the PKBs' interpersonal and managerial skills, enabling them to connect with the community more effectively. PKBs equipped with both technical knowledge and strong interpersonal skills are more likely to feel motivated to tackle the challenges of their roles. For instance, monthly meetings held by DP3APPKB provide opportunities for motivation reinforcement through activity evaluations, goal-setting, and peer interactions. These sessions not only boost morale but also reinforce a sense of purpose, contributing to enhanced performance.

This aligns with studies which suggest that competence fosters intrinsic motivation by instilling confidence and a sense of accomplishment. Moreover, research by highlights that competence, when coupled with motivation, serves as a robust driver for performance in public service roles. Thus, it is imperative to design training initiatives that not only build technical expertise but also cultivate motivation through recognition, support, and opportunities for personal growth.

Although competence does not directly influence PKB performance, this study reveals its significant mediating effect through motivation. The analysis shows a p-value of 0.000 (<0.05) and a mediating influence of 64.6%, highlighting the critical role of motivation in translating competence into actionable performance. This finding aligns with the self-determination theory, which posits that individuals are more motivated when they feel competent and capable in their roles.

In practice, PKBs in Surabaya benefit from training programs that enhance both technical expertise and interpersonal skills. For example, the KIP/Counseling and Advocacy training programs, attended by 36 and 25 PKBs respectively, focus on building communication skills and fostering community engagement. These competencies not only boost confidence but also instill a sense of accomplishment, which directly impacts motivation levels. Monthly evaluation meetings organized by DP3APPKB further reinforce this motivation by providing opportunities for goal-setting, peer interaction, and recognition of achievements.

Research supports the idea that motivation acts as a bridge between competence and performance. Wirawan (2020) found that competence significantly enhances intrinsic motivation, which in turn drives performance improvements. Similarly, Pujiyanto (2017) demonstrated that the combined effect of competence and motivation was a strong predictor of performance in public service roles. These studies suggest that the psychological impact of competence—manifested through increased self-efficacy and job satisfaction—is a critical factor in achieving high performance.

The implications of these findings are significant for human resource management. Training programs should not only focus on technical skills but also incorporate elements that foster motivation, such as leadership development, career progression opportunities, and performance-based rewards. By addressing both competence and motivation, organizations can create a synergistic effect that maximizes employee performance.

3. Work Environment and its Influence on PKB Performance

The study's findings indicate that the work environment does not directly influence PKB performance, with a p-value of 0.150 (>0.05) and a modest impact of 17.5%. Despite the availability of essential resources such as motorbikes and office spaces, critical gaps remain, including insufficient technology tools and inadequate private spaces for counseling services. Furthermore, many PKBs lack a dedicated operational base, such as a Balai Penyuluhan KB, which hinders their ability to conduct private and impactful interactions with the community.

These findings suggest that while physical infrastructure is important, it is insufficient to drive performance without addressing psychological and social elements. The lack of advanced technological support, such as updated Android devices for data management and reporting, compounds these challenges. The study highlights that performance is more significantly influenced by intrinsic factors such as competence and motivation than by environmental factors alone. Research by Mangkunegara (2016) similarly posits that the work environment's impact on performance is often mediated by internal variables like motivation and job satisfaction.

To address these gaps, there is a need for strategic investments in both physical and social aspects of the work environment. For instance, providing modern technology tools, establishing dedicated counseling spaces, and fostering a collaborative work culture could help PKBs perform their duties more effectively. While these changes may not directly influence performance, they can enhance job satisfaction and engagement, which are critical for long-term success.

4. Work Environment and its Influence on PKB Performance through Motivation

The study further establishes that the work environment significantly impacts performance when mediated by motivation, with a p-value of 0.000 (<0.05) and an influence of 16.8%. A supportive environment, both

physical and psychological, can enhance motivation levels, ultimately translating into improved performance. This underscores the role of motivation as a critical intermediary in leveraging the benefits of a conducive work environment.

For PKBs in Surabaya, motivation often stems from organizational support, peer recognition, and clear performance incentives. However, limitations in their work environment—such as outdated technology and high workloads—can dampen their enthusiasm and sense of accomplishment. As highlighted in studies by Rokhilah et al. (2014) and I Gusti Agung Bagus Cakra (2020), motivation serves as a powerful variable that amplifies the impact of external factors like the work environment on performance. By addressing motivational drivers, such as providing regular training updates, recognition programs, and collaborative opportunities, organizations can maximize the potential of their workforce.

The findings also suggest that strategies to improve the work environment should prioritize psychological and social well-being. For instance, monthly review meetings and team-building activities can strengthen social bonds and reinforce a shared sense of purpose. Integrating motivational strategies with work environment improvements can create a synergistic effect, enabling PKBs to excel in their roles despite external challenges.

IV. CONCLUSION

Based on the analysis conducted in this study, the following conclusions. The study found that competence does not have a significant direct influence on the performance of Family Planning Counselors (PKB) in Surabaya, with a p-value of 0.066 (>0.05) and an impact of only 19.2%. This indicates that while competence contributes to performance, it is not the primary determinant. Other factors such as motivation or the work environment may play a more critical role. The findings also highlight the need for further exploration of other factors influencing performance, alongside improvements in management systems and employee motivation. Competence, although essential, may not be effectively utilized due to on-ground challenges like high workloads, limited resources, and administrative demands, which can hinder optimal performance.

Competence was found to significantly mediate motivation's impact on performance, with a p-value of 0.000 (<0.05) and an effect of 64.6%. This demonstrates that competence is vital in enhancing motivation, which subsequently improves PKB performance. Consequently, training programs should focus not only on enhancing technical competence but also on developing interpersonal and managerial skills to boost both motivation and performance. The interplay between competence and motivation underscores the importance of holistic development for PKBs, enabling them to overcome field challenges and deliver effective results.

The work environment was found to have no significant direct impact on PKB performance, with a p-value of 0.150 (>0.05) and an effect of 17.5%. Although a conducive work environment supports comfort and productivity, its impact on performance may not be as substantial as expected. Management should instead prioritize factors with greater influence, such as intrinsic motivation or a reward system, while improving elements that foster social interaction and collaboration. Limitations in physical facilities or technological support in the field may restrict the ability of PKBs to perform optimally. Furthermore, the lack of a supportive environment for collaboration and communication could hinder efforts to enhance performance.

The study also found that the work environment mediates motivation's impact on performance, with a p-value of 0.000 (<0.05) and an influence of 16.8%. While the work environment does not directly influence performance, it indirectly affects it by enhancing motivation. Improving the work environment should therefore include psychological and social aspects, such as recognition and appreciation, to increase both motivation and performance. A supportive environment creates a comfortable and encouraging workplace, which is critical for maintaining employee motivation. However, if the work environment is suboptimal or employees feel undervalued, its impact on motivation and performance may be limited. Enhancements should address both psychological and social factors, such as rewards and support, to maximize motivation and performance outcomes.

In conclusion, while competence and the work environment are essential, their impacts are significantly mediated by motivation. Therefore, strategic interventions that integrate skill development, motivational programs, and work environment improvements can foster higher performance levels among PKBs.

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The Influence of Human Resources Competencies on Work Productivity at PT. Intidragon Suryatama Mojokerto

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ABSTRACT

Purpose: This research aims to examine the impact of human resource competency on work productivity within the footwear industry, which is characterized by its labor-intensive nature and the necessity for skilled employees to enhance both effectiveness and efficiency in production.

Design/Methodology/Approach: The study employs a quantitative approach, gathering questionnaire data from a diverse group of respondents to assess the influence of competency on work productivity. Regression analysis is utilized to quantify the level of impact that employee competency has on productivity, allowing for a detailed exploration of this relationship.

Practical Implications: The findings reveal a positive influence of employee competency on productivity enhancement, underscoring the critical importance for industries, particularly those that are labor-intensive like the footwear sector, to invest in the development of worker competencies. By doing so, these industries can improve their competitive edge and operational efficiency, leading to better overall performance and sustainability in the market.

Keywords: *Competency, Work Productivity.*

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I. INTRODUCTION

The increasing level of competition in the industrial world requires management to determine the right strategy in running its business. Efforts to carry out work efficiency and effectiveness are very necessary to increase productivity (Bahri et al., 2023). This is very necessary in order to reduce operational costs and increase work output. The role of human resources as actors and operators of this production process plays a very important role in the success of achieving management goals to increase productivity (Hasibuan, 2018). Therefore, improving employee competence must continue to be carried out by industry and the government in preparing competent and competitive human resources (Fauzi & Nugroho, 2024).

Human resources (HR) are one of the main factors that are very important in an organization because of their large and useful contribution in determining the success of the organization. Human resources hired to work in a company need to have the ability/competence and expertise in their field. In a company, human resources who have high competence are the most important resource and can increase the company's superiority. The higher the competency score they have, the greater their opportunity to achieve their main goal. In essence, competence is needed by workers to develop their careers quickly because these workers can work effectively (Maranata & Dito, 2024). According to (Sedarmayanti, 2018), competency is a combination of knowledge, skills and behavior that is used to improve achievement, or a condition/quality that is sufficient/highly qualified, which has the ability to carry out a certain role. In a company, workers who have high competence are the most important resource and can increase the company's superiority (Efendi & Utami, 2022). The higher the competency score they have, the greater their opportunity to achieve their main goal. In essence, competence is needed by workers to develop their careers quickly because these workers can work effectively (Fauzi & Nugroho, 2024).

Shoe company PT. Intidragon Suryatama is a company that has been consistent in the shoe industry for more than 50 years. With the development of the era, competition in the shoe industry is getting tighter. As one of the labor-intensive companies employing more than 3000 employees, management continues to strive to improve work efficiency and effectiveness in order to compete with competitors. Because the shoe company is a labor-intensive industry, improving the competence of human resources or operators is the company's concentration. Various efforts, both internal and external, are made to take steps to improve and increase employee competence. Employee training is carried out both internally in the company and training involving external parties, both private and government parties, all of which aim to improve the quality of human resources or employee competence (Pardede et al., 2023) .

Currently, product competition is getting tighter. With the use of the internet, all products can be offered and enjoyed by consumers. Various features and advantages of each product can be seen by consumers via the internet. This is a challenge for the industrial world in order to win the competition. The productivity of a company is an indicator to measure the level of success of a company in achieving the desired target (Sarita, 2022) . Increasing productivity can be done in various ways , one of which is increasing employee work competence. Thus, the footwear industry is still able to carry out production efficiency and effectiveness so that it can compete with competitors, both domestic industries and imported footwear products that are increasingly entering the domestic market at very competitive prices.

A. Operational Definition of Variables

1. Competence

(Bahri et al., 2023) explains that competence refers to a person's efforts to achieve optimum results in the workplace, including his or her efforts to apply and adapt skills and knowledge to the current situation, to increase benefits that have been mutually agreed upon. Meanwhile, (Fauzi & Nugroho, 2024) describe competencies as basic individual characteristics that influence the effectiveness of achievements, which have a cause-and-effect relationship with certain skills, enabling the individual to work brilliantly or achieve high achievements in the workplace or in certain circumstances. Edison, Anwar, and Komariyah (2018) stated that competency indicators are based on behavior that complies with established laws, namely:

1. Knowledge
2. Skills
3. Attitude

2. Productivity

(Maranata & Dito, 2024) explains that productivity is the ratio between the amount of output and the amount of input used. Therefore, it can be concluded that productivity is the attitude or behavior of workers to produce something that has been determined by the company according to the quality and time that has been determined, and is related to work, production techniques, and increasing worker skills. (Bahri et al., 2023) states that work productivity is the ability to produce goods or services from the various resources and abilities possessed by each worker. (Maranata & Dito, 2024) state that work productivity is an individual's success in carrying out their duties, which can be seen from the dimensions of involvement, planning ability, effort in work, and the overall productivity of workers. In order to measure work productivity, several indicators are needed. In Edy Sutrisno's book, in (Fauzi & Nugroho, 2024) it is explained that the productivity indicators are as follows:

1. Ability
4. Improve the results achieved
5. Work enthusiasm
6. Self-development
7. Quality
8. Efficiency

II. METHODS

A study approach based on the nature of the data, including a quantitative study approach where the data collected is in the form of statistical figures (Sugiono., 2019) . Quantitative study methods are used to research certain populations or samples, sampling techniques are carried out randomly, data collection uses study instruments, and data analysis is quantitative with the aim of testing predetermined hypotheses. Therefore, quantitative studies present specific procedures, complete literature, and clearly formulated hypotheses (Ghozali., 2018) . Based on the discussion of the problems and theories that have been explained, the investigator uses a quantitative study approach which is analyzed using regression analysis methods to determine the influence of

independent variables on dependent variables. In this study, the source of data obtained is primary data obtained from the results of interviews and questionnaires given to several workers at the level of chairman, section head, division head, staff and management. Questionnaires are given to employees who have subordinates, so that they can truly measure the level of competence of their subordinates. So that the questionnaire can be answered objectively based on field conditions (Arikunto, 2019) . The population of this study was taken from employees at PT. Intidragon Suryatama at the head of the group level and above, totaling 115 people. So a sample of 50 people was used as follows :

Table 1. Research Sample

Employee Level	Amount	Part
Manager	4	Production, PPIC, Engineering, RND, QC,
Head of Division	7	Cutting, PSP and Injection production
Section Chief	16	Prod cutting, printing, sewing, packing
Group Head	23	Production cutting, printing, sewing, packing, injection
Total Respondents	50	

Source: 2024 Data Processing Results

III. RESULTS AND DISCUSSION

A. Results

1. Validity and Reliability Test

In this study, researchers collected data from a sample of 50 respondents, establishing an r table value of 0.279 at a 5% significance level. A significance test was conducted on the questionnaire items against the total score, yielding a significance value of ≤ 0.05 , which indicates that all instruments underwent a rigorous validity assessment. The validity test employed the bivariate correlation method in SPSS, enabling the researchers to examine the relationship between each questionnaire item and the overall variable construct. The test results reveal that all five instruments in the Y variable exhibit correlation values equal to or greater than the r table threshold (0.279) and maintain significance values of ≤ 0.05 . This confirms that each instrument in the Y variable meets the validity criteria, establishing their reliability in accurately capturing the construct measured. With these results, the instruments are deemed valid and suitable for use in further analyses within the study, supporting robust and credible data collection that can contribute to meaningful insights into the research objectives.

Table 2. Reliability Test Results

Reliability Statistics	
Cronbach's Alpha	N of Items
.787	10

Source: 2024 Data Processing Results

From the results of the reliability test shown in the table above, the Cronbach's Alpha value is 0.787, which exceeds the threshold of 0.6. This indicates that the variables in this study are reliable. A Cronbach's Alpha value above 0.6 demonstrates internal consistency among the items within each variable, meaning that the instruments are consistently measuring the intended construct. With a Cronbach's Alpha of 0.787, the items exhibit strong reliability, confirming that the data collection tools used in this research are robust and suitable for generating dependable insights in alignment with the study's objectives.

2. Linearity Test

The criterion for the linearity test states that if the significance value for deviation from linearity is greater than 0.05, the relationship between the variables can be considered linear. This indicates that the variables change in a consistent pattern relative to one another. Conversely, if the significance value for deviation from linearity is less than 0.05, the relationship between the variables is classified as non-linear. A non-linear result suggests that the variables do not follow a consistent linear trend, indicating a more complex association between them that cannot be adequately explained by a straight-line relationship.

Table 3. Linearity Test Results

			Sum of		Mean		
			Squares	df	Square	F	Sig.
Productivity * Competence	Between	(Combine	138,364	7	19,766	47,072	.000
	Groups	d)					
		Linearity	137,884	1	137,884	328,362	.000
		Deviation	.480	6	.080	.190	.978
		from Linearity					
	Within Groups		17,636	42	.420		
	Total		156,000	49			

Source: 2024 Data Processing Results

From the linearity test results, the data indicate a deviation from linearity value of 0.978, which is greater than 0.05. This result confirms that the relationship between the variables is linear. Since the deviation from linearity exceeds the threshold of 0.05, it suggests a consistent, predictable association between the variables, allowing for analysis under the assumption of linearity. Consequently, the variables in this study can be interpreted as having a stable linear relationship, which supports further analysis based on linear modeling assumptions.

3. Hypothesis Testing

Table 4. T-Test Results

		Unstandardized Coefficients		Standardized		
		B	Std. Error	Coefficients	t	Sig.
Model				Beta		
1	(Constant)	2.105	.857		2.456	.018
	Competence	.895	.047	.940	19.114	.000

a. Dependent Variable: Productivity

Source: 2024 Data Processing Results

From the coefficients data presented above, the constant value is 2.105, while the regression coefficient for the Competence variable (b) is 0.895. This allows us to express the regression equation as $Y=2.105+0.895X$. Based on this equation, we can conclude that there is a positive relationship between variable X (Competence)

and variable Y (Productivity). Specifically, for every 1% increase in variable X, we can expect an increase of 0.895 in variable Y.

Furthermore, the coefficients table also indicates a significance value of 0.000, which is less than the threshold of 0.05. This implies that the Competence variable (X) has a statistically significant effect on the Productivity variable (Y). Additionally, the calculated t value is 19.114, which exceeds the critical t value of 2.01063. This reinforces the finding that the Competence variable (X) significantly influences the Productivity variable (Y), providing strong evidence of the impact of competence on productivity in the context of this study.

Table 5. F Test Results

ANOVA ^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	137,884	1	137,884	365,330	.000 ^b
	Residual	18,116	48	.377		
	Total	156,000	49			

a. Dependent Variable: Productivity

b. Predictors: (Constant), Competence

Source: 2024 Data Processing Results

From the regression results, the calculated F value is 365.330, which exceeds the F table value of 4.04. This indicates that, when considered simultaneously, the Competence variable has a significant influence on the Productivity variable. Additionally, the significance value is 0.000, which is less than the 0.05 threshold. This further confirms that the Competence variable (X) significantly impacts the Productivity variable (Y). Therefore, we can conclude that the relationship between these two variables is not only statistically significant but also indicative of a strong influence of competence on productivity within the context of this study.

Table 6. Results of the Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.940 ^a	.884	.881	.614

a. Predictors: (Constant), Competence

Source: 2024 Data Processing Results

From the Model Summary data presented above, the value of R is 0.940, and the R square (R²) value is 0.884. The R square value represents the proportion of variance in the dependent variable that can be explained by the independent variable. In this case, the R square value indicates that the Competence variable (X) accounts for 88.4% of the variance in the Productivity variable (Y). This demonstrates a strong relationship between the two variables. Furthermore, the remaining 11.6% of the variance in productivity is attributed to other factors not included in this study. This substantial R square value underscores the significance of the Competence variable in influencing productivity and suggests that while the competency plays a major role, additional variables may also contribute to productivity outcomes in this context.

B. Discussion

From the equation data provided, it can be concluded that the relationship between variable X (Competence) and variable Y (Productivity) is positive. Specifically, for every 1% increase in variable X, there is a corresponding increase of 0.895 in variable Y. Furthermore, the coefficients table reveals a significance value of 0.000, which is

less than the 0.05 threshold. This indicates that the Competence variable (X) significantly affects the Productivity variable (Y). Additionally, the calculated t value of 19.114 is greater than the critical t value of 2.01063, further supporting the conclusion that the Competence variable has a significant impact on Productivity. In the Model Summary data, the R value is 0.940, and the R square (R²) is 0.884. The R square value indicates that 88.4% of the variance in the Productivity variable (Y) can be explained by the Competence variable (X). This strong correlation suggests that competency plays a crucial role in determining productivity outcomes. Meanwhile, the remaining 11.6% of the variance in productivity can be attributed to other variables not included in this study, highlighting the potential influence of additional factors on productivity.

Based on the results of the analysis, it was found that the HR competency variable had a significant influence on work productivity. This means that HR competency can influence worker performance. Every individual who works is expected to achieve high achievements. Achievement is the result of activity and ability elements that can be measured. The success of an achievement really depends on and is determined by several aspects in carrying out the work. To achieve optimum performance, the influence of competency factors needs to be maximized according to the field of work given to workers. Therefore, competence as an individual characteristic is needed to achieve effective performance in carrying out work tasks (Morad & Wahyuni, 2023). Competence can be linked to achievement in a causal flow model which shows that objective, trait, self-concept, and knowledge competencies generated by certain circumstances can predict behavior that subsequently increases achievement. If competence is used well, it will give the impression of increasing optimum work productivity. The results of this study are in line with previous studies conducted by (Maranata & Dito, 2024) and studies by (Fauzi & Nugroho, 2024) regarding work competence on work productivity, which explains that work competence has a significant direct influence on workers' work productivity.

IV. CONCLUSION

The partial study results indicate that competence has a positive and significant influence on worker productivity. Analyzing the questionnaire distribution reveals that the highest response rate was for the first statement, which emphasizes that the tasks assigned align with the company's goals. This finding suggests that the work assigned to employees is well-matched with the organization's objectives. As a result, workers perceive that their roles are not only suited to their skills but also contribute effectively to the company's mission. This alignment between individual tasks and organizational goals emerges as one of the key findings in the study, highlighting the importance of ensuring that employees' competencies are utilized in a manner that supports overall company performance.

Suggestions that are expected to be useful for agencies, in this case PT. Intidragon Suryatama Company, for future improvements based on the results of this study. First, employee competency which includes aspects of skills, knowledge, and attitudes is very important in increasing productivity, so it needs special attention from the company. Second, considering that employee competency has a significant influence on productivity, the company should continuously improve employee competency according to their respective fields of work. This improvement can be done in various ways, either through the recruitment process, internal training, or externally, so that the company's human resources (HR) are more competent in their fields and are able to increase productivity.

This study has several limitations. First, it focuses only on the influence of competence on productivity, so other factors such as work environment and motivation have not been considered. Second, the use of questionnaires has the potential to cause respondent bias who want to provide answers according to company expectations. Third, this study was only conducted at PT. Intidragon Suryatama, so the results are difficult to generalize to other companies or industries. These limitations are expected to be a consideration for further research to expand the scope of variables and subjects so that the results are more representative.

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Behavior of Personal Protective Equipment (PPE) Use in The Implementation of Occupational Health and Safety (Osh)

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ABSTRACT

Purpose: The purpose of this research is to analyze the behavior of using Personal Protective Equipment (PPE) in the implementation of Occupational Health and Safety (OHS). The behavior of using Personal Protective Equipment consists of government regulations, company policies, and employee compliance.

Design/methodology/approach: This research uses a descriptive quantitative approach. The data collection techniques include questionnaires and documentation. The data analysis tool used is regression and path analysis with SPSS application.

Findings: The results of the study show that government regulations, company policies, and employee compliance do not have a significant effect on the behavior of using PPE by workers. Additionally, government regulations and employee compliance do not have a direct significant effect on OSH implementation. However, the behavior of using PPE and company policies have a direct significant effect on OSH implementation. Indirectly, government regulations have a significant effect on OSH implementation through the behavior of using PPE. This study contributes to enriching the understanding of the factors that influence the implementation of OSH in the forestry industry.

Keywords: Regulations, Policies, Compliance, Personal Protective Equipment (PPE), Occupational Safety and Health (OSH).

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I. INTRODUCTION

A. Background

The quality of human resources can, of course, be seen from how the company manages them. Human resource management plays an important role in the life of an organization, including companies. The better the company's performance, the better the company's strategy can be implemented, and the closer the determined goals can be achieved (Supriadi, 2022). Human resource management is a system aimed at influencing employees' attitudes, behaviors, and performance so that they can contribute optimally to achieving company objectives (Supriadi, 2022). The success of a company in managing its human resources greatly determines the success of achieving organizational goals.

Managed human resources are expected to work according to the applicable Standard Operating Procedures (SOP). The SOP creates specific activities within the company. SOP compliance ensures that employees work according to the regulations and optimize performance (Nola, 2023). In a company, it is not only SOP that employees must adhere to, but also the norms of Occupational Safety and Health (OSH), which need to be understood, complied with, and implemented. Similar to SOPs, OSH norms function to ensure employee safety. By implementing SOPs, the efficiency of each company work unit can be significantly increased in terms of time, work processes, and operational costs.

According to the International Labour Organization (ILO), more than 250 million workplace accidents and over 160 million workers become ill due to workplace hazards each year. Furthermore, 1.2 million workers die from workplace accidents and illnesses (Sari, 2024). Meanwhile, the Social Security Administration for Employment (BPJS Ketenagakerjaan) reported that in 2017, there were 123,041 reported workplace accidents, while in 2018, the number reached 173,105 cases with claims for Work Accident Insurance (Nalahudin, 2022). Based on reports for the first semester of 2023, the number of workplace accidents in Indonesia according to BPJS membership type was 159,127 cases from Wage-earning Workers, 7,845 cases from Non-wage-earning Workers, and 1,363 cases from Construction Service Workers. Meanwhile, 91 cases of Occupational Diseases were recorded (Processed Ministry of Manpower Data, 2021).

These figures show that the human and social costs of production are too high. In the past, workplace accidents and health disorders were considered an inevitable part of production. However, there are now various national and international legal standards on occupational safety and health that must be met in the workplace. These standards reflect a broad agreement among employers, workers, and governments that the social and economic costs of workplace accidents and occupational diseases must be reduced (Sari, 2024).

In addition to requiring continuous attention, effective action on occupational safety and health demands a shared commitment from workers and employers. Workers and employers must be prepared to respect well-recognized OSH principles. They must also maintain, follow, and continuously evaluate established policies and practices. The level of commitment can only be built if workers, supervisors, and managers collaborate to create a safety and health system that they understand and trust (Sari, 2024). Workplace accidents are caused by three factors: humans, equipment, and the environment (Damkar, July 14, 2020). The human-related factors include workers' lack of understanding of Occupational Safety and Health (OSH) regulations, minimal OSH training, lack of awareness regarding the use of Personal Protective Equipment (PPE), and inadequate OSH Standard Operating Procedures (SOP) (Nola, 2023).

The implementation of work in a company should adhere to the applicable regulations for every company, including those in the forestry industry like PT Surya Hutani Jaya. PT Surya Hutani Jaya, located in Muara Kaman District, Kutai Kartanegara Regency, is a company engaged in Industrial Plantation Forest (HTI) management based on the principles of sustainable plantation forest management.

According to the Decree of the Minister of Forestry No: SK Menhut 156/Kpts-II/1996 regarding the determination of the work area boundaries of PT Surya Hutani Jaya, the company initially had a definitive area of approximately \pm 183,000 hectares for its production forest area. However, over the span of 30 years, changes in spatial planning and government policies have reduced the area to approximately \pm 153,000 hectares. Based on initial observations by the author, who is an employee at the company, the overall compliance of PT Surya Hutani Jaya employees with occupational safety and health aspects is still not optimal.

Workplace accident reports over the last three years at PT Surya Hutani Jaya indicate an increase in the number of accidents. In 2023, there was a workplace accident categorized as a fatality (death) and a near-miss incident, which had not occurred in the previous years. These data indicate that the company's efforts to reduce workplace accidents have not been fully effective, as the number of accidents has increased over the last three years. Although the company strives to comply with government regulations on the importance of OSH as part of its company policy, the behavior of PT Surya Hutani Jaya employees has not fully adhered to the use of PPE during work activities.

B. Literature review

1. Human Resource Management

Human Resource Management (HRM) is a part of general management that focuses on human resources. Supriadi (2022) explain that Human Resource Management (HRM) encompasses the abilities and potential possessed by leaders and employees in a company. Employees should not be treated as machines and must be recognized for having potential and talents that can be continuously developed for the benefit of the company. Once developed, management needs to create a conducive environment for employees to apply their abilities within the company.

2. Government Regulations

Government regulations are the rules governing corporate social responsibility issued by either central or local governments. Government regulations can be understood as a natural extension of laws that define and control how businesses or individuals must comply with the law. According to Stewart and Walshe (Heryanto, 2024): "Government regulation is a process to ensure that standards as legal requirements are met for certain services or public activities so that policies are fulfilled." Coghill (Basuki, 2017) explains that government regulations can be understood as an inseparable part of a company's environment, as the government, as a regulatory body, plays a significant role in shaping the company's policies toward its external environment.

Henriques and Sadorsky (Basuki, 2017) also suggest that government regulations influence the importance of corporate social responsibility.

3. Company Policies

According to Indrafachrudi (Rina, 2018): "Policy is a fundamental provision that serves as the basis for conducting administrative activities." According to Carl Friedrich (2021), "Policy is an action directed toward a goal within a certain environment to obstacles while seeking opportunities to achieve desired objectives." Company policy refers to the guidelines that outline laws, regulations, and goals and can be used by managers or directors for decision-making and as a guide for managing business activities. Company policies are required to be flexible easily interpretable and understood by all employees.

4. Employee Compliance

Compliance is the extent to which an employee's behavior aligns with the provisions set by the company and/or superiors. Compliance is assessed by the adherence to all activities following the applicable policies, rules, and laws. Employees, on the other hand, are individuals who work by selling their labor (physical and intellectual) to a company and receiving compensation by an agreement (Husain, 2022). Compliance is the starting point for attitudes and behaviors, and thus, these three aspects are interrelated. Factors affecting compliance will lead to changes in attitudes and behaviors, and in turn, these changes will influence the outcome of compliance.

5. Behavior in Using Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) is equipment designed to protect individuals at work by isolating their bodies from hazards in the work environment (Depnaker, 2006; Budiari, 2020). PPE is a set of tools that must be used by workers to protect their bodies from potential hazards or workplace accidents (Budiono, 2006; Budiari, 2020). Behavior in using PPE refers to the actions of workers in using a set of tools to protect their entire body or parts of it from potential hazards or accidents. The use of PPE is the last stage of efforts to control accidents or occupational diseases.

6. Occupational Safety and Health (OSH)

Mangkunegara (2017) states, "Occupational safety and health are thoughts and efforts to ensure the physical and mental integrity of workers, specifically, and humans in general, to safeguard human creations and culture for the achievement of a just and prosperous society. By implementing Occupational Safety and Health (OSH), companies can reduce financial losses resulting from accidents and occupational diseases. Additionally, the implementation of OSH can enhance employee productivity. Healthy and safe employees in the workplace will be more productive and motivated in their work. The company can also save on medical care costs and compensation (D Ayu Lestari, 2019).

C. Conceptual Framework

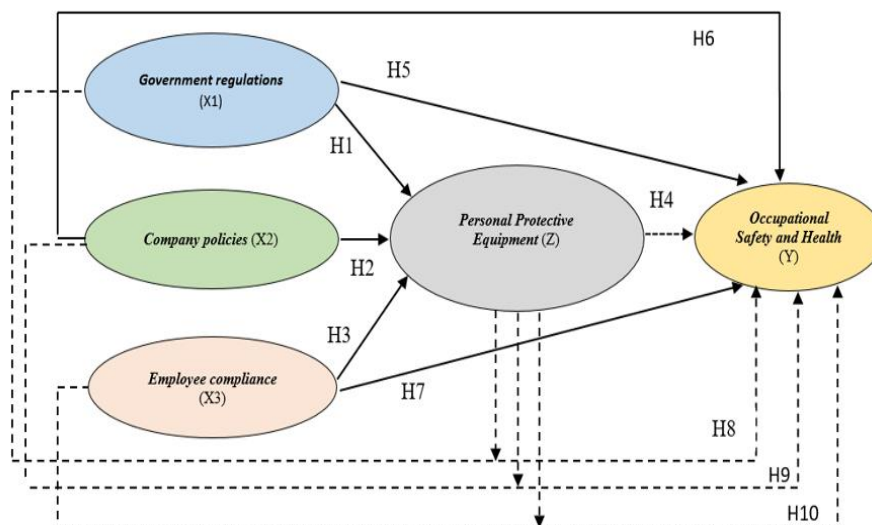


Figure 1. Conceptual Framework

Line Description::



D. Hypothesis

The hypotheses proposed by the author in this study are as follows:

H₁: Government regulations have a significant influence on workers' behavior in using Personal Protective Equipment (PPE)

H₂: Company policies have a significant influence on workers' behavior in using Personal Protective Equipment (PPE)

H₃: Employee compliance has a significant influence on workers' behavior in using Personal Protective Equipment (PPE)

H₄: Behavior in using Personal Protective Equipment (PPE) has a significant influence on the implementation of Occupational Safety and Health (OSH)

H₅: Government regulations have a significant direct influence on the implementation of Occupational Safety and Health (OSH)

H₆: Company policies have a significant direct influence on the implementation of Occupational Safety and Health (OSH)

H₇: Employee compliance has a significant direct influence on the implementation of Occupational Safety and Health (OSH)

H₈: Government regulations have a significant indirect influence on the implementation of Occupational Safety and Health (OSH) through the behavior of using Personal Protective Equipment (PPE).

H₉: Company policies have a significant indirect influence on the implementation of Occupational Safety and Health (OSH) through the behavior of using Personal Protective Equipment (PPE).

H₁₀: Employee compliance has a significant indirect influence on the implementation of Occupational Safety and Health (OSH) through the behavior of using Personal Protective Equipment (PPE)

II. METHODS

A. Type Of Research

The scope of this research is to analyze the influence of Government regulations, Company policies, and employee compliance on the implementation of Occupational Safety and Health (OSH) through the behavior of using Personal Protective Equipment (PPE). This study uses a quantitative descriptive approach. The data collection techniques used were questionnaires with a Likert scale (1-5) and documentation studies. This study consists of five variables: the implementation of Occupational Safety and Health (OSH) as the dependent variable (Y), the behavior of using Personal Protective Equipment (PPE) as the mediating variable (Z), and Government Regulation, Company Policy, and Employee Compliance as independent variables (X).

B. Population and Sample

The population in this study consists of 431 employees of PT Surya Hutani Jaya in the Muara Kaman District. Using the Slovin formula (with a significance level of 0.10), 80 samples we found

C. Data Analysis Method

This study uses multiple linear regression analysis carried out with the help of the SPSS version 27 program and conducts path analysis, the data used must pass the classical assumption test, namely the normality test, the multicollinearity test, the heteroscedasticity test and the autocorrelation test.

Path analysis is a statistical technique to test the causal relationship between two or more variables. Structural equations or structural models are when each related/endogenous variable (Y and Z) is uniquely determined by a set of independent/exogenous variables (X). Furthermore, an image that shows the structural causal relationship between variables is called a path diagram. Systematically, path analysis follows a structural model pattern, so the first step in working on or implementing a path analysis model is to formulate structural equations and path diagrams. 1) Structural equation: A Structural equation is an equation that explains the causal relationship, namely exogenous variables X₁, X₂, and X₃ to endogenous variables Y and Z 2). Path Diagram (Path Diagram) to describe the causal relationships between the variables to be studied. Researchers use a diagram model which is usually called a research paradigm, this is used to make it easier to see causal relationships.

III. RESULTS AND DISCUSSION

A. Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.291 ^a	.085	.049	4.079

a. Predictors: (Constant), X3, X2, X1

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	67.672	12.595		5.373	.000
	X1	.416	.217	.218	1.914	.059
	X2	.221	.196	.127	1.124	.264
	X3	.223	.219	.113	1.021	.310

a. Dependent Variable: Z

Figure 1: Path Analysis Test Results (a)

Source: Research Results, 2024

According to Table 1 as follows: The analysis test of the effect of X1 on Z (H1) shows a beta value of 0.218 with a significance value of 0.059 > 0.05. The conclusion is that there is no significant direct effect of X1 on Z, which means hypothesis H1 is rejected. The beta value is 0.127 with a significance value of 0.264 > 0.05. The conclusion is that there is no significant direct effect of X2 on Z, which means hypothesis H2 is rejected. The beta value is 0.113 with a significance value of 0.310 > 0.05. The conclusion is that there is no significant direct effect of X3 on Z, which means hypothesis H3 is rejected.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.453 ^a	.205	.163	2.098

a. Predictors: (Constant), Z, X3, X2, X1

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.113	7.595		2.385	.020
	X1	.015	.114	.014	.127	.899
	X2	.261	.102	.273	2.558	.013
	X3	.095	.113	.087	.835	.406
	Z	.159	.059	.290	2.715	.008

a. Dependent Variable: Y

Figure 2: Path Analysis Test Results (b)

Source: Research Results, 2024.

According to Table 2 as follows: The beta value is 0.290 with a significance value of 0.008 < 0.05. The conclusion is that there is a significant direct effect of Z on Y, which means hypothesis H4 is accepted. The beta value is 0.014 with a significance value of 0.899 > 0.05. The conclusion is that there is no significant direct effect of X1 on Y, which means hypothesis H5 is rejected. The beta value is 0.273 with a significance value of 0.013 < 0.05. The conclusion is that there is a significant direct effect of X2 on Y, which means hypothesis H6 is accepted. The beta value is 0.087 with a significance value of 0.406 > 0.05. The conclusion is that there is no significant direct effect of X3 on Y, which means hypothesis H7 is rejected. It is known that the direct influence has a value of 0.014 while the indirect influence has a value of 0.0632, which means that the indirect influence is greater than the direct influence. Indirectly, X1 through Z has a significant influence on Y, which means that hypothesis H8 is accepted. It is known that the direct influence has a value of 0.273 while the indirect influence has a value of 0.03683, which means that the indirect influence is smaller than the direct influence. Indirectly, X2 through Z does not have a significant influence on Y, which means that hypothesis H9 is rejected. It is known that the direct influence has a value of 0.087 while the indirect influence has a value of 0.03277, which means that the indirect influence is smaller than the direct influence. Indirectly, X2 through Z does not have a significant effect on Y, which means the hypothesis H10 is rejected.

B. Discussion of Research Results

1. The Influence of Government Regulations on PPE Usage Behavior

From the analysis of the influence of Government Regulations (X1) on the behavior of PPE (Z) usage, it was found that the beta value is 0.218 with a significance value of $0.059 > 0.05$. Therefore, it is concluded that there is no direct significant influence of Government Regulations (X1) on PPE Usage Behavior (Z), meaning that government regulations (laws) do not directly have a significant impact. When related to the study conducted by Risgiyanto (2022), it is indeed true that government regulations have an influence on PPE usage behavior, but these regulations do not directly alter behavior. Instead, they are incorporated into the company's Standard Operating Procedures (SOPs) or company policies, which are communicated to employees through supporting programs implemented in the company. In this study, company policy was separated into an independent variable parallel to government regulations, and the study did not examine the relationship between government regulations and PPE usage behavior through company policies.

2. The Influence of Company Policy on PPE Usage Behavior

From the analysis of the influence of Company Policy (X2) on PPE Usage Behavior (Z), it was found that the beta value is 0.127 with a significance value of $0.264 > 0.05$. Therefore, it is concluded that there is also no direct significant influence of Company Policy (X2) on PPE Usage Behavior (Z). Previous studies, such as Aminu (2021), have shown a meaningful relationship between company policy and PPE usage, particularly concerning policies related to work safety training for employees. However, in this study, workers who did not use PPE were engaged in jobs that did not require it. In contrast, jobs with high-risk exposure mandate the use of PPE. The study also identifies that a worker's position in the company impacts this behavior. Similarly, the literature by Istigfary (2022) discusses the meaningful relationship between company policies in hospitals and the use of PPE. Given the nature of the healthcare sector, hospitals enforce strict policies on PPE use due to high-risk tasks like patient contact and hazardous drug preparation. Other studies, such as those by Okorie O. M. (2023), have also emphasized that company policies on PPE usage significantly contribute to the implementation of occupational health and safety (OHS).

3. The Influence of Employee Compliance on PPE Usage

From the analysis of the influence of Employee Compliance (X3) on PPE Usage (Z), the beta value was 0.113, with a significance of $0.310 > 0.05$. Therefore, there is no direct significant influence of X3 on Z. In previous research by Inna Nesy Barizqi (2015), it was highlighted that when workers are non-compliant with work accident control measures such as technical control, administrative control, and PPE usage, unsafe conditions arise, leading to workplace accidents. Accidents subsequently affect worker behavior, indicating that the relationship between employee compliance (X3) and PPE usage (Z) is not direct. In Barizqi (2015) study, PPE usage itself represented employee compliance impacting workplace safety, which differs from this study, where compliance and PPE usage are treated as separate variables. Husain (2022) study on employee adherence to SOPs found that these procedures help define the rights and responsibilities of employees, forming positive behaviors. However, this study explores compliance more broadly, not just in adherence to SOPs.

4. The Influence of PPE Usage on OSH Implementation

From the analysis of the influence of PPE Usage on OSH Implementation, the beta value was 0.290 with a significance of $0.008 < 0.05$. Therefore, it is concluded that there is a direct significant influence of PPE usage on the implementation of OHS, meaning that PPE usage significantly impacts OHS implementation. Previous studies, such as that by Nurseha (2013), have confirmed the importance of risk control measures, such as PPE usage, in preventing workplace accidents. Firda and Lailatul (2023) also discussed the meaningful relationship between PPE usage and OSH implementation. Similarly, Hendrawati (2022) and Maesaroh (2013) highlighted the significant positive relationship between PPE usage and organizational commitment to OSH.

5. The Influence of Government Regulations on OSH Implementation

From the analysis of the influence of X1 on Y, the beta value was 0.014 with a significance of $0.899 > 0.05$. Therefore, there is no direct significant influence of X1 on Y, similar to the previous analysis where government regulations did not show a direct impact on OSH implementation. Government regulations, when not accompanied by enforcement efforts, do not significantly impact OSH implementation. In the study by Ristiono et al., it was found that OSH implementation in hospitals is influenced by government regulations and policies, management commitment, and other factors affecting the effectiveness of regulations. However, in the context of healthcare, adherence to OSH regulations is more stringent due to the critical nature of the field. The same findings were reported by Pratama, et. al (2021), where detailed variables such as planning, monitoring, and evaluation were examined.

6. The Influence of Company Policy on OSH Implementation

From the analysis of the influence of Company Policy (X2) on OSH Implementation (Y), the beta value was 0.273 with a significance of $0.013 < 0.05$. Therefore, it is concluded that there is a direct significant influence of Company Policy (X2) on OSH Implementation (Y), indicating that company policies do impact the implementation of OSH. This is in line with previous research showing the importance of company efforts in complying with government regulations, thereby shaping behaviors that influence OSH implementation. Supriadi (2022) explored the relationship between company policies and OSH, emphasizing risk identification and control efforts as part of achieving OSH objectives.

6. The Influence of Employee Compliance on OSH Implementation

From the analysis of the influence of Employee Compliance on OSH Implementation, the beta value was 0.087 with a significance of $0.406 > 0.05$. Therefore, there is no direct significant influence of Employee Compliance on OSH Implementation. This study separated compliance from PPE usage, unlike previous studies that combined them, leading to a larger possibility of no influence being found.

7. Indirect Effects of Government Regulations on OSH Implementation Through PPE Usage Behavior

The indirect effect of X1 through Z on Y was calculated by multiplying the beta value of X1 on Z by the beta value of Z on Y, resulting in $0.218 \times 0.290 = 0.0632$. The total effect of X1 on Y is the sum of the direct effect (0.014) and the indirect effect (0.0632), totaling 0.0772. This shows that the indirect influence of X1 through Z on Y is greater than the direct effect, indicating that government regulations influence OSH implementation through PPE usage behavior. As mentioned in several journals, including by Hendiani and Wediawati (2023), there is a relationship between work discipline or employee compliance (with government regulations and company policies) as an intervening variable in the implementation of Occupational Health and Safety (OSH) and its impact on employee performance.

8. The Influence of Company Policies on the Implementation of Occupational Health and Safety (OSH) Through the Behavior of Personal Protective Equipment (PPE) Usage

From the analysis test of the influence of X2 through Z on Y, it was found that the beta value for the direct effect of X2 on Y is 0.273. Meanwhile, the indirect effect of X2 through Z on Y is the product of the beta value of X2 on Z and the beta value of Z on Y, namely: $0.127 \times 0.290 = 0.03683$. Therefore, the total effect of X2 on Y is the direct effect added to the indirect effect, which is: $0.273 + 0.03683 = 0.30983$. Based on these calculations, it is known that the direct effect has a value of 0.273, while the indirect effect is 0.03683, meaning that the indirect effect is smaller than the direct effect. Indirectly, X2 through Z does not have a significant effect on Y. This result can be understood as companies typically having multiple policies, and not only the policy on the use of PPE affects OSH, but other company policies, such as OSH planning documents, have a greater impact on the implementation of OSH in the company. This is also explained by Dana (2021), who stated that company policies have an indirect effect on the implementation of OSH in companies through infrastructure and facilities. It is also explained that the above variables indirectly influence the availability of OSH infrastructure and facilities in the workplace. Safety promotion, OSH inspection, and audit significantly affect OSH infrastructure and facilities. This differs from this study, which does not elaborate on safety promotion, inspection, and audit.

9. The Influence of Employee Compliance on the Implementation of Occupational Health and Safety (OSH) Through the Behavior of Personal Protective Equipment (PPE) Usage

From the analysis test of the influence of X3 through Z on Y, it was found that the beta value for the direct effect of X3 on Y is 0.087. Meanwhile, the indirect effect of X3 through Z on Y is the product of the beta value of X3 on Z and the beta value of Z on Y, namely: $0.113 \times 0.290 = 0.03277$. Therefore, the total effect of X3 on Y is the direct effect added to the indirect effect, which is: $0.087 + 0.03277 = 0.11977$. Based on these calculations, it is known that the direct effect has a value of 0.087, while the indirect effect is 0.03277, meaning that the indirect effect is smaller than the direct effect. Indirectly, X3 through Z does not have a significant effect on Y. Employee behavior also does not have a significant indirect effect on the use of PPE. Although some employee behaviors were not studied, in this case, employee behavior does not have an indirect effect on the implementation of OSH. If we relate this to previous research, it is found that the relationship between employee compliance as an intervening variable is connected with the use of Standard Operating Procedures (SOPs) as an independent variable and safety as a dependent variable. Bahri (2022) also explained that leadership supervision, compliance with workplace SOPs, and work discipline have a significant positive effect on safety. Thus, previous researchers stated that compliance with SOPs indeed has an impact, although this study did not specifically examine that aspect.

IV. CONCLUSION

The results of the study indicate that government regulations, company policies, and employee compliance do not have a significant impact on the behavior of using personal protective equipment (PPE) by workers. Additionally, government regulations and employee compliance do not have a significant direct effect on the implementation of Occupational Health and Safety (OSH). However, the behavior of PPE usage and company policies have a significant direct effect on the implementation of OSH. Indirectly, government regulations significantly influence the implementation of OSH through the behavior of PPE usage. Based on these findings, it can be concluded that government regulations and company policies play an important role in the implementation of OSH, while employee compliance requires further attention to be optimized. This research contributes to enriching the understanding of the factors that influence the implementation of OSH in the forestry industry. It is recommended that companies strengthen policies related to the use of PPE and increase awareness about the importance of government regulations and employee compliance in supporting workplace safety.

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The Influence of Work Stress, Work Motivation, Work Environment on The Performance of Health Workers In 24-Hour Non-Inpatient Community Health Centers in Wonocolo District, Surabaya with Job Satisfaction as An Intervening Variable

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ABSTRACT

Purpose: his study aims to analyze the influence of work stress, work motivation, and work environment on the performance of healthcare workers at 24-Hour Non-Inpatient Community Health Centers in Wonocolo District, Surabaya. The study also explores the impact of these three factors on job satisfaction and examines the role of job satisfaction as an intervening variable in the relationship between work stress, work motivation, and work environment on the performance of healthcare workers. This research adopts a quantitative approach using a survey method with 90 healthcare workers as the sample. Data collection was conducted through questionnaires, and data analysis was carried out using Structural Equation Modeling (SEM). The results of the study indicate that out of ten hypotheses tested, three hypotheses were accepted. Work stress has a significant negative effect on healthcare workers' performance ($P = 0.000$), work motivation has a significant positive effect on job satisfaction ($P = 0.001$), and the work environment has a significant positive effect on job satisfaction ($P = 0.003$). Other hypotheses, such as the direct effects of work stress, work motivation, and work environment on performance and job satisfaction, were rejected as they did not meet the significance threshold of $P < 0.05$. The limitations of the study include the small sample size and the use of questionnaires, which may be influenced by respondents' subjective bias. Future research is expected to involve a larger sample and additional variables.

Design/methodology/approach: The technique for collecting data involved using questionnaires that were completed through the Saturated Sampling method. These questionnaires were distributed to a sample of 90 healthcare workers at the Community Health Centers in Wonocolo District, Surabaya, and the data was analyzed using the SEM-PLS application.

Findings: The results indicate that work stress negatively affects the performance of healthcare workers. Work motivation does not considerably impact the performance of healthcare workers. Also, the work environment has no major influence on their performance. Work stress does not noticeably affect job satisfaction. On the other hand, work motivation has a positive effect on job satisfaction. What's more, the work environment plays a major role in determining job satisfaction. Job satisfaction, however, does not considerably affect the performance of healthcare workers and does not act as a mediator in the relationship between work stress, work motivation, the work environment, and healthcare worker performance.

Originality/value: This study contributes to understanding the factors influencing healthcare worker performance at the Surabaya Regional Health Laboratory. It highlights that while work stress negatively impacts performance, work motivation positively affects job satisfaction, and the work environment significantly influences job satisfaction. However, job satisfaction does not substantially impact performance and does not mediate the relationships between work stress, work motivation, the work environment, and performance. This insight emphasizes the need for targeted strategies to address work stress and motivation to enhance employee outcomes.

Paper type: Research paper

Keyword: Work Stress, Work Motivation, Work Environment, Job Satisfaction.

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I. INTRODUCTION

Surabaya has undergone swift development, resulting in various health challenges, particularly because the population density has not been accompanied by improvements in living standards and infrastructure. Major social and cultural shifts have also influenced community behaviors, potentially leading to health issues. To tackle these challenges, one of Surabaya's main objectives is to enhance the quality of life for its residents by improving health standards. Community Health Centers (Puskesmas) are essential to this initiative, acting as key providers of primary healthcare services.

In light of globalization and swiftly changing conditions, Puskesmas in Surabaya must constantly adjust to ensure effective and efficient healthcare delivery. The performance of healthcare workers is essential for the health of the organization and the quality of services provided. Optimal performance is essential not only for maintaining the organization's reputation but also for ensuring high-quality healthcare for the community.

Puskesmas are critical components of the national health system, particularly in delivering equitable and accessible primary healthcare services. In the Wonocolo District of Surabaya, there are two non-inpatient Puskesmas that operate 24 hours: Puskesmas Sidosermo and Puskesmas Jemursari. These centers are instrumental in providing daily health services and addressing emergency situations.

Several factors influence the performance of healthcare workers at Puskesmas, including work stress, work motivation, and the conditions of the work environment. Work stress can affect performance positively or negatively, depending on how well individuals cope with the pressure. Work motivation is another important factor that encourages healthcare workers to deliver optimal service. Besides, a supportive work environment, including assistance from colleagues and appropriate facilities, contributes to enhancing performance and job satisfaction. There exists a knowledge gap in prior research regarding the factors that influence healthcare worker performance at non-inpatient Puskesmas, particularly in specific contexts such as the Wonocolo District. This study aims to fill this gap by thoroughly analyzing the impacts of work stress, work motivation, and work environment on healthcare worker performance, while also considering job satisfaction as an intervening variable. The results are anticipated to offer new insights and policy recommendations for enhancing primary healthcare services.

A. Literature Review

1. Work Stres

According to Utami (2022), Individuals who are unable to manage stressors will respond negatively, making it necessary to develop skills and abilities to cope with stress. There are three main sources of stress: environmental factors, organizational factors, and individual factors..

2. Work Motivation

Astuti (2020) states that motivation is an internal drive that triggers a series of human behavioral processes aimed at achieving predetermined goals. Motivation includes key elements such as arousing, directing, sustaining, being continuous, and having clear objectives. It is not merely a driving force, but also guides individuals to remain focused on their goals and maintain consistency in their efforts to achieve those goals. This process plays a crucial role in providing energy and resilience to individuals when facing challenges.

3. Work Environment

According to Sedarmayanti (2017), the work environment encompasses all aspects related to the place where a person works, including tools, materials, methods, and work arrangements, both individually and in groups. The work environment is also defined as a place for groups equipped with supporting facilities to achieve the company's goals in line with its vision and mission.

4. Job Satisfaction

Job satisfaction is a general attitude toward one's job that reflects the difference between the amount of rewards workers receive and the amount they believe they should receive (Dr. Meithiana Indrasari, S.T., 2017)..

5. Healthcare Worker Performance

According to Mangkunegara (2017), performance is the quality and quantity of work achieved by a healthcare employee in carrying out their duties according to the responsibilities assigned to them. Performance is a function of motivation and ability.

II. METHODS

A. Conceptual Framework

Referring to the background information, research objectives, and previous research findings, a conceptual framework has been developed to provide more detailed guidance in achieving the objectives of this research. The outline of the conceptual framework in this study can be presented as follows:

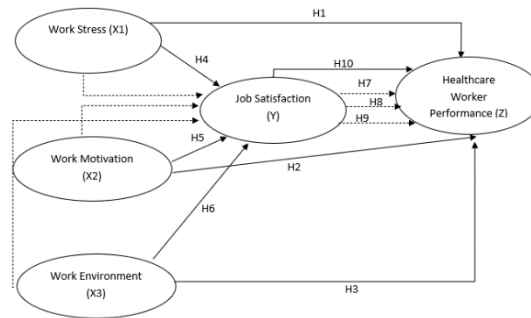


Figure 1. Research Conceptual Framework

B. Hypothesis

Work stress can have a positive relationship with performance, as indicated by the research conducted by Riny Chandra and Dody Adriansyah (2017), which shows that work stress can significantly affect the performance of employees at PT. Mega Auto Central Finance Branch Langsa..

H1: Work stress has a positive effect on the performance of healthcare workers.

According to a study conducted by Andi Armyudi Syam (2023) on the influence of motivation on the performance of healthcare workers at the Sinjai Barat Community Health Center in Sinjai District, it was found that motivation affects the performance of healthcare workers at the Tengngalembang Health Center in Sinjai, Sinjai Barat District. The results indicate that the motivation variable has a positive impact on the performance of healthcare workers at the Tengngalembang Health Center in Sinjai..

H2: Work motivation positively affects the performance of healthcare workers.

According to a study conducted by Qonitatin Nisak et al. (2022) on the influence of the work environment, workload, and work stress on the performance of medical personnel at the UPTD Tarik Health Center, it was found that the work environment has a positive and significant effect on the performance of medical personnel at the Tarik Health Center, both simultaneously and partially.

H3: The work environment positively affects the performance of healthcare workers.

According to a study conducted by Yolanda Yosephine Irawan et al. (2020) on the influence of work stress on job satisfaction among nurses in the inpatient unit at Advent Hospital Bandung, the results showed that nurses in this unit experience moderate levels of work stress and satisfactory job satisfaction. Additionally, there is a significant relationship between work stress and job satisfaction, as indicated by the significance value. This means that an increase in work stress levels can lead to a decrease in job satisfaction among nurses working at the hospital.

H4: Work stress negatively affects job satisfaction.

Elmira Apriliani (2020) conducted a study on the relationship between remuneration and work motivation with job satisfaction among nurses at RS PKU Muhammadiyah Gamping. The results of the study showed that work motivation has a significant positive effect on job satisfaction..

H5: Work motivation has a positive effect on job satisfaction.

Based on the descriptive analysis conducted by Dita et al. (2019), the Work Environment (X1) at Jomin, Kotabaru, and North Cikampek health centers has a positive influence on Job Satisfaction (Y).

H6: Lingkungan Kerja berpengaruh positif terhadap Kepuasan Kerja.

The results of Bintang Perdana's study, titled "Analysis of Health Workers' Job Satisfaction in Improving the Performance of Health Workers at Al Islam Hospital," show that the influence of job satisfaction on the performance improvement of health workers has a positive outcome, based on data processing results that indicate a high categorization.

H7: Job satisfaction has a positive effect on the performance of health workers..

The research conducted by Henny Kurniat et al. (2022) states that work stress has a direct negative and significant effect on job satisfaction among employees of the Salido Community Health Center in Pesisir Selatan Regency.

H8 : Work stress has a negative effect on healthcare workers' performance with job satisfaction as an intervening variable.

The research conducted by Rifdah Adilah et al. examined the influence of workplace safety, work motivation, and social support on healthcare workers' performance through job satisfaction at DKT Hospital Sidoarjo during the Covid-19 pandemic. The results of the study showed that work motivation affects performance through job satisfaction as an intervening variable.

H9 : Work motivation has a positive effect on healthcare workers' performance with job satisfaction as an intervening variable.

The next research was conducted by Yoga et al. in 2018 with the title "The Effect of Work Environment and Organizational Culture on Employees Mediated by Work Stress: A Study at PT ADIRA Dinamika Multifinance in Denpasar." The results of this study showed that the work environment affects performance, and job satisfaction can mediate the influence of the work environment and compensation on performance. This study used Nuraini's theory for the work environment and Widodo's theory for performance. The similarity with this research lies in the use of questionnaires for data collection and linear regression analysis for data processing.

H10: The work environment has a positive effect on healthcare workers' performance with job satisfaction as an intervening variable.

C. Data Collection and Analysis Technique

This type of research falls into the category of quantitative research. Quantitative research methods can be defined as "a research approach based on positivist philosophy, used to investigate a specific population or sample, with data collection techniques involving research tools or instruments, and data analyzed quantitatively or statistically with the aim of testing previously formulated hypotheses" (Sugiyono, 2021). The sample for this research was selected using a saturated sampling method, meaning that all 44 employees of the Surabaya City Health Laboratory were included as the research sample. This approach indicates that if the population size is less than 100 individuals, the entire population can be used as the research sample (Sugiyono, 2021). The data collection method in this research involves the use of a brief questionnaire. The questionnaire is completed through Google Forms. The data collection technique used by researchers is a questionnaire with a Likert Scale of 1-4. The data analysis technique in this research uses Structural Equation Modeling (SEM). The analytical method used in this research is Outer Model Analysis, Inner Model Analysis, to test the hypothesis, the p-values test is carried out using the Structural Equation Modeling (SEM) application.

III. RESULTS AND DISCUSSION

A. Results

1. Overview of Respondents

a. Characteristics of Respondents based on Gender

Table 1. Characteristics of Respondents Based on Gender

<i>Gender</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Male</i>	25	27.78%
<i>Female</i>	65	72.22%
<i>Total</i>	90	100%

Source: Processed primary data (2024)

Based on Table 1, it is known that there were 90 respondents (100%). Based on the characteristics of the respondents above, it shows that the majority of respondents are female.

b. Characteristics of Respondents based on Age

Table 2. Characteristics of Respondents Based on Age

<i>Age</i>	<i>Number of Respondents</i>	<i>Percentage</i>
16 – 25	6	6,67%
26 – 35	34	37,78%
36 - 45	33	36,67%
46 - 55	13	14,44%
56 - 65	4	4,44%
>65	0	0%
<i>Total</i>	<i>90</i>	<i>100%</i>

Source: Processed primary data (2024)

Based on Table 2, it can be seen that the percentage of respondents aged 16 – 25 is 8.96%, aged 26 – 35 is 38.81%, aged 36 – 45 is 35.82%, aged 46 – 55 is 13.43%, aged 56 – 65 is 2.99%, and those over 65 years old is 0%. This indicates that the majority of respondents are within the age range of 26 – 35 years old.

c. Characteristics of Respondents Based on Healthcare Profession

Table 3. Characteristics of Respondents Based on Marital Status

<i>No.</i>	<i>Group</i>	<i>Number</i>	<i>Percentage</i>
1	<i>Doctors</i>	15	16.67%
2	<i>Nurses</i>	19	21.11%
3	<i>Midwives</i>	14	15.56%
4	<i>Administrative Staff</i>	12	13.33%
5	<i>Other</i>	30	33.33%
	<i>Total</i>	<i>90</i>	<i>100%</i>

Source: Processed primary data (2024)

Referring to Table 3, it can be observed that the majority of respondents fall into the "Other professions" category, representing 33.33% of the total respondents. This is followed by nurses, who constitute 21.11%, and doctors, who make up 16.67% of the respondents. Midwives account for 15.56% of the sample, while administrative staff make up the smallest group, representing 13.33% of the respondents. This distribution indicates a diverse range of professional backgrounds among the healthcare workers surveyed, with a significant

portion coming from various other roles outside the primary categories of doctors, nurses, midwives, and administrative staff.

d. Characteristics of Respondents Based on Length of Service at the Puskesmas

Table 4. Characteristics of Respondents Based on on Length of Service at the Puskesmas

<i>No.</i>	<i>Group</i>	<i>Number</i>	<i>Percentage</i>
1	1 Th	19	21.11%
2	1-3 th	10	11.11%
3	3 - 5	8	8.89%
4	>5	53	58.89%

Source: Processed primary data (2024)

According to Table 4 above, it can be seen that the percentage of respondents who have worked at the Puskesmas for more than 5 years is the highest, at 58.89%. This suggests that a significant portion of the healthcare workers have long-term experience in their roles. In contrast, 21.11% of respondents have only been working for 1 year, which is the second-largest group. Additionally, 11.11% of respondents have been employed for 1 to 3 years, while 8.89% have worked for 3 to 5 years. This distribution highlights a workforce with a wide range of experience, though most have extensive tenure at the Puskesmas.

2. Partial Least Square (PLS)

Model Scheme In this research, hypothesis testing uses the Partial Least Square (PLS) analysis technique with the smartPLS 4.0 program.

3. Outer Model Testing

a. Convergent Validity

To test convergent validity, the outer loading or loading factor value is used. An indicator is declared to meet convergent validity in the good category if the outer loading value is > 0,6. Pada tahap 1 pengujian dengan semua indikator dihasilkan beberapa indikator yang tidak memenuhi validitas sehingga dilakukan eliminasi terhadap beberapa indikator yang tidak valid yaitu (X1.2,...) selanjutnya dilakukan uji convergent validity dan menghasilkan sebagaimana pada table berikut Tabel 4. The following are the loading factor values for each indicator on the research variables:

Table 4. Loading Factor

<i>Variable</i>	<i>Indicator</i>	<i>Loading Factor</i>	<i>Rule of Thumb</i>	<i>Conclusion</i>
<i>Work Stres (X1)</i>	<i>X1.2</i>	<i>0, 855</i>	<i>0,6</i>	<i>Valid</i>
	<i>X1.3</i>	<i>0, 843</i>	<i>0,6</i>	<i>Valid</i>
	<i>X1.3</i>	<i>0, 703</i>	<i>0,6</i>	<i>Valid</i>
<i>Work Motivation (X2)</i>	<i>X2.3</i>	<i>0, 762</i>	<i>0,6</i>	<i>Valid</i>
	<i>X2.4</i>	<i>0, 837</i>	<i>0,6</i>	<i>Valid</i>

	X2.5	0, 828	0,6	Valid
Work Environment (X3)	X2.1	0, 738	0,6	Valid
	X2.3	0, 761	0,6	Valid
	X2.4	0, 828	0,6	Valid
Job Satisfaction (Z)	Z1.2	0, 858	0,6	Valid
	Z1.3	0, 789	0,6	Valid
	Z1.4	0, 810	0,6	Valid
Healthcare Worker Performance (Y)	Y1.2	0, 915	0,6	Valid
	Y1.3	0, 886	0,6	Valid

Data Source: 2024 PLS Data Processing Results

The data presented in table 4 above shows that each research variable indicator has an outer loading value of > 0.6. The data above shows that there are no variable indicators whose outer loading value is below 0.5, so that all indicators are declared suitable or valid for research use and can be used for further analysis.

b. Discriminant Validity

In this section, the results of the discriminant validity test will be described. The discriminant validity test uses cross loading values. An indicator is declared to meet discriminant validity if the cross loading value of the indicator on the variable is the largest compared to other variables. The following is the cross loading value of each indicator :

Table 5. Cross Loading

	<i>Healthcare Worker Performance</i>	<i>Job Satisfaction</i>	<i>Work Environment</i>	<i>Work Motivation</i>	<i>Work Stres</i>	<i>Conclusion</i>
KK2	-0.092	0.858	53.10%	0.528	-0.376	Valid
KK3	0.057	0.789	39.70%	0.39	-0.308	Valid
KK4	-0.047	0.81	41.60%	0.556	-0.208	Valid
KTK2	0.915	0.012	-2.30%	0.24	-0.376	Valid
KTK3	0.886	-0.096	-17.40%	0.051	-0.269	Valid
LKF1	-0.07	0.421	0.738	0.481	-0.381	Valid

LKF3	-0.068	0.411	0.761	0.277	-0.259	Valid
LKF4	-0.102	0.454	0.828	0.278	-0.197	Valid
MK3	0.076	0.425	0.369	0.762	-0.319	Valid
MK4	0.114	0.48	0.31	0.837	-0.302	Valid
MK5	0.201	0.554	0.393	0.828	-0.404	Valid
SK1	-0.384	-0.327	-0.289	-0.416	0.855	Valid
SK2	-0.254	-0.31	-0.304	-0.267	0.843	Valid
SK3	-0.195	-0.224	-0.271	-0.338	0.703	Valid

Data Source: 2024 PLS Data Processing Results

According to the data in table 5, it shows that the loading value of each indicator item on the construct is greater than the cross-loading value. Thus, it can be concluded that all constructs or latent variables have good discriminant validity, where in the block the construct indicators are better than the other block indicators.

c. Cronbach’s Alpha and Composite Reliability

Besides construct validity testing, construct reliability testing was also carried out as measured by composite reliability and Cronbach's alpha of the indicator block that measures the construct. The following are the results of composite reliability and Cronbach's alpha testing from Smart PLS:

Table 6. Composite Reliability and Cronbach’s Alpha

<i>Variable</i>	<i>Cronbach's alpha</i>	<i>Rule of Thumb</i>	<i>Composite reliability (rho_c)</i>	<i>Rule of Thumb</i>
<i>Healthcare Worker Performance</i>	0.769	0,6	0.896	0,8
<i>Job Satisfaction</i>	0.757	0,6	0.859	0,8
<i>Work Environment</i>	0.669	0,6	0.82	0,8
<i>Work Motivation</i>	0.74	0,6	0.851	0,8
<i>Work Stres</i>	0.73	0,6	0.844	0,8

Data Source: 2024 PLS Data Processing Results

A variable is declared reliable if it has a composite reliability value above 0.6 and Cronbach's alpha above 0.8. From the SmartPLS output results above, all variables have composite reliability values above 0.70 and Cronbach's alpha above 0.60. So it can be concluded that validity has good reliability.

d. Average Variance Extracted (AVE)

Apart from observing the cross-loading value, discriminant validity can also be determined through other methods, namely by looking at the average variant extracted (AVE) value for each indicator, the required value must be > 0.5 for a good model.

Table 7. Average Variant Extracted (AVE)

<i>Variable</i>	<i>Average variance extracted (AVE)</i>	<i>Conclusion</i>
<i>Healthcare Worker Performance</i>	<i>0.811</i>	<i>Reliable</i>
<i>Job Satisfaction</i>	<i>0.671</i>	<i>Reliable</i>
<i>Work Environment</i>	<i>0.603</i>	<i>Reliable</i>
<i>Work Motivation</i>	<i>0.656</i>	<i>Reliable</i>
<i>Work Stres</i>	<i>0.645</i>	<i>Reliable</i>

Data Source: 2024 PLS Data Processing Results

4. Inner Model Testing

This research will explain the results of the path coefficient test, R-square, f-square, goodness of fit test, Q-square and hypothesis test.

a. Determination Coefficient (R²) Test Results

The determination coefficient (R-Square) is used to measure how much endogenous variables are influenced by other variables. Based on data processing that has been carried out using the SmartPLS program, the R-Square values are obtained as follows:

Table 9. R-Square Value

<i>Variable</i>	<i>R-Square</i>
<i>Healthcare Worker Performance</i>	<i>0, 224</i>
<i>Job Satisfaction</i>	<i>0, 472</i>

Data Source: 2024 PLS Data Processing Results

Based on the data presented in Table 9 above, it can be seen that the R-Square value for Healthcare Worker Performance is 0.224. This indicates that 22.4% of the variation in Healthcare Worker Performance is explained by the variables in the model. Meanwhile, the R-Square value for Job Satisfaction is 0.472, meaning that 47.2% of the variation in Job Satisfaction is explained by the variables in the model.

b. Predictive Relevance Test (Q²)

The Q-Square value has the same meaning as coefficient determination (R-Square) in regression analysis, where the higher the Q-Square, the better or more fit the model can be to the data.

The results of calculating the Q-Square value are as follows:

$$\begin{aligned}
 \text{Q-Square} &= 1 - [(1 - R_1^2) \times (1 - R_2^2)] \\
 &= 1 - [(1 - 0,224^2) \times (1 - 0,472^2)] \\
 &= 1 - (0.776 \times 0.528)
 \end{aligned}$$

$$= 1 - 0,409$$

$$= 0,591$$

c. Effect Size (f²) Results

The change in the R-square value can be used to determine whether the influence of exogenous latent variables on endogenous latent variables has a substantive impact. Therefore, it is necessary to measure the effect size (f²), with the recommended values for exogenous latent variables being 0.02 (small), 0.15 (moderate), and 0.35 (large) (Cohen, 1998).

Table 10. f-Square Value

<i>Variable</i>	<i>f-square</i>
<i>Job Satisfaction -> Healthcare Worker Performance</i>	<i>0.025</i>
<i>Work Environment -> Healthcare Worker Performance</i>	<i>0.05</i>
<i>Work Environment -> Job Satisfaction</i>	<i>0.169</i>
<i>Work Motivation -> Healthcare Worker Performance</i>	<i>0.033</i>

Data Source: 2024 PLS Data Processing Results

From the Q-Square calculation, it is known that the Q-Square value is 0.591. This indicates that 59.1% of the variability in the research data can be explained by the research model, while the remaining 40.9% is attributed to factors outside of this model. Therefore, the research model demonstrates a good fit.

d. Model Goodness of Fit (GoF)

The goodness of fit assessment is known from the Q-Square value. The Goodness of Fit (GoF) test is used to validate the combined performance of the measurement model and the structural model. The GoF value ranges from 0 to 1, with the interpretation of the values as follows: 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF). The results of calculating the GoF value are as follows:

Table 11. Compare AVE and R-Square Value

<i>Variable</i>	<i>AVE</i>	<i>R-Square</i>
<i>Healthcare Worker Performance</i>	<i>0.811</i>	<i>0.224</i>
<i>Job Satisfaction</i>	<i>0.671</i>	<i>0.472</i>
<i>Work Environment</i>	<i>0.603</i>	
<i>Work Motivation</i>	<i>0.656</i>	
<i>Work Stres</i>	<i>0.645</i>	
<i>Total</i>	<i>2,784</i>	

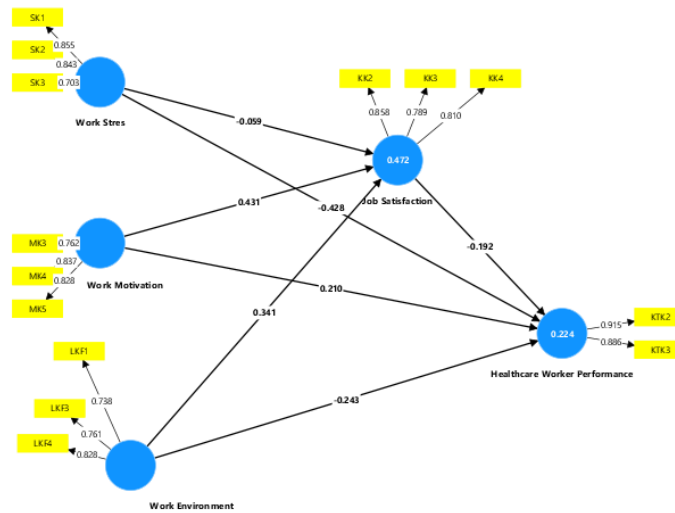
$$GoF = \sqrt{AVE \times R^2}$$

$$\begin{aligned}
 &= \sqrt{3.386 \times 0.70} \\
 &= \sqrt{0.6772 \times 0.348} \\
 &= \sqrt{0.2356656} \\
 &= 0.485454014
 \end{aligned}$$

From the GoF calculation, it is known that the GoF value is 0.485454014. Thus, from these results, this research model can be stated to have good goodness of fit with category large (more than 0.36)

e. Hypothesis Testing

The test results of the model are described as shown in the following figure



This image displays the results of the validity and reliability tests conducted on the research model. From the shown path diagram, it can be seen that the model satisfies the validity tests on each examined path, based on values such as outer loadings and the relationships between latent variables.

Each indicator linked to the latent variables has an outer loading value that meets the criteria, indicating that these indicators are valid and can be used in further analysis. Additionally, the paths between latent variables also demonstrate significant relationships, as indicated by the T-Statistics and P-Values.

Based on the data processing that has been carried out, the results can be used to answer the hypothesis in this research. Hypothesis testing in this research was carried out by looking at the T-Statistics values and P-Values values. The research hypothesis can be declared accepted if the P-Values value is <0.05. . The following are the results of hypothesis testing obtained in this research through the inner model:

Table. 11 Hypothesis Testing

<i>Hypotheses</i>	<i>Influence</i>	<i>Original sample (O)</i>	<i>T statistics (O/STDEV)</i>	<i>P values</i>	<i>Result</i>
<i>H1</i>	<i>Work Stres -> Healthcare Worker Performance</i>	<i>-0.428</i>	<i>4.798</i>	<i>0</i>	<i>Accepted</i>
<i>H2</i>	<i>Work Motivation -> Healthcare Worker Performance</i>	<i>0.21</i>	<i>1.244</i>	<i>0.214</i>	<i>Rejected</i>
<i>H3</i>	<i>Work Environment -> Healthcare Worker Performance</i>	<i>-0.243</i>	<i>1.729</i>	<i>0.084</i>	<i>Rejected</i>

H4	Work Stres -> Job Satisfaction	-0.059	0.794	0.427	Rejected
H5	Work Motivation -> Job Satisfaction	0.431	3.458	0.001	Accepted
H6	Work Environment -> Job Satisfaction	0.341	2.96	0.003	Accepted
H7	Job Satisfaction -> Healthcare Worker Performance	-0.192	1.227	0.22	Rejected
H8	Work Stres -> Job Satisfaction -> Healthcare Worker Performance	0.011	0.597	0.55	Rejected
H9	Work Motivation -> Job Satisfaction -> Healthcare Worker Performance	-0.083	1.163	0.245	Rejected
H10	Work Environment -> Job Satisfaction -> Healthcare Worker Performance	-0.065	0.979	0.328	Rejected

Based on the data presented in the table. 11 above, it can be seen that of the seven hypotheses proposed in this research, they are as follows:

1. The Influence of Work Stress on Healthcare Worker Performance (H1) a The P-value is 0.000, which is less than 0.05. This indicates that work stress has a significant negative effect on healthcare worker performance. Thus, H1 is accepted.
2. The Influence of Work Motivation on Healthcare Worker Performance (H2) a The P-value is 0.214, which is greater than 0.05. This suggests that work motivation does not have a significant effect on healthcare worker performance. Thus, H2 is rejected.
3. The Influence of Work Environment on Healthcare Worker Performance (H3) a The P-value is 0.084, which is greater than 0.05. This indicates that the work environment does not have a significant effect on healthcare worker performance. Thus, H3 is rejected.
4. The Influence of Work Stress on Job Satisfaction (H4) a The P-value is 0.427, which is greater than 0.05. This means that work stress does not have a significant effect on job satisfaction. Thus, H4 is rejected.
5. The Influence of Work Motivation on Job Satisfaction (H5) a The P-value is 0.001, which is less than 0.05. This indicates that work motivation has a significant positive effect on job satisfaction. Thus, H5 is accepted.
6. The Influence of Work Environment on Job Satisfaction (H6) a The P-value is 0.003, which is less than 0.05. This shows that the work environment has a significant positive effect on job satisfaction. Thus, H6 is accepted.
7. The Influence of Job Satisfaction on Healthcare Worker Performance (H7) a The P-value is 0.220, which is greater than 0.05. This indicates that job satisfaction does not have a significant effect on healthcare worker performance. Thus, H7 is rejected.
8. The Influence of Work Stress on Healthcare Worker Performance with Job Satisfaction as an Intervening Variable (H8) a The P-value is 0.550, which is greater than 0.05. This suggests that work stress, with job satisfaction as an intervening variable, does not have a significant effect on healthcare worker performance. Thus, H8 is rejected.
9. The Influence of Work Motivation on Healthcare Worker Performance with Job Satisfaction as an Intervening Variable (H9) a The P-value is 0.245, which is greater than 0.05. This indicates that work motivation, with job satisfaction as an intervening variable, does not have a significant effect on healthcare worker performance. Thus, H9 is rejected.

10. The Influence of Work Environment on Healthcare Worker Performance with Job Satisfaction as an Intervening Variable (H10) a The P-value is 0.328, which is greater than 0.05. This suggests that the work environment, with job satisfaction as an intervening variable, does not have a significant effect on healthcare worker performance. Thus, H10 is rejected.

B. Discussion

In this sub-chapter, the results of the hypothesis testing that has been carried out are explained. The discussion of this research hypothesis will be explained as follows:

1. The Influence of Work Stress on Healthcare Worker Performance

The analysis shows that the p-value for the work stress variable (H1) is 0.000, which is less than 0.05. This result indicates that work stress significantly and negatively affects healthcare worker performance. When healthcare workers experience high levels of stress, their performance tends to decrease, which is consistent with existing literature on the negative impact of stress in the workplace.

2. The Influence of Work Motivation on Healthcare Worker Performance

For the second hypothesis (H2), the p-value of the work motivation variable is 0.214, which is greater than 0.05. This means that work motivation does not have a significant impact on healthcare worker performance in this study. This finding suggests that, within this context, other factors may be more influential in determining healthcare worker performance.

3. The Influence of Work Environment on Healthcare Worker Performance

The third hypothesis (H3) has a p-value of 0.084, which is greater than 0.05. This indicates that the work environment does not significantly affect healthcare worker performance. While a supportive work environment is generally believed to enhance performance, this result suggests that its impact may be less pronounced in this particular setting.

4. The Influence of Work Stress on Job Satisfaction

For the fourth hypothesis (H4), the p-value for the relationship between work stress and job satisfaction is 0.427, which is greater than 0.05. This result indicates that work stress does not significantly impact job satisfaction. This may imply that healthcare workers have coping mechanisms or other factors that buffer the effects of stress on their satisfaction levels.

5. The Influence of Work Motivation on Job Satisfaction

The fifth hypothesis (H5) reveals that the p-value for the work motivation variable is 0.001, which is less than 0.05. This indicates that work motivation has a significant positive impact on job satisfaction. This aligns with the understanding that motivated employees are generally more satisfied with their jobs, as motivation drives them to find meaning and fulfillment in their work.

6. The Influence of Work Environment on Job Satisfaction

In the sixth hypothesis (H6), the p-value for the work environment variable is 0.003, which is less than 0.05. This indicates that the work environment significantly and positively influences job satisfaction. A supportive and positive work environment can greatly enhance employees' job satisfaction, which is consistent with existing research findings.

7. The Influence of Job Satisfaction on Healthcare Worker Performance

The seventh hypothesis (H7) shows that the p-value for the relationship between job satisfaction and healthcare worker performance is 0.220, which is greater than 0.05. This indicates that job satisfaction does not significantly influence healthcare worker performance in this study. This suggests that while job satisfaction is important, it may not be the primary driver of performance outcomes in this context.

8. The Influence of Work Stress on Healthcare Worker Performance through Job Satisfaction

For the eighth hypothesis (H8), the p-value is 0.550, which is greater than 0.05. This indicates that job satisfaction does not significantly mediate the relationship between work stress and healthcare worker performance. This suggests that even if job satisfaction improves, it may not sufficiently mitigate the negative effects of work stress on performance.

9. The Influence of Work Motivation on Healthcare Worker Performance through Job Satisfaction

The ninth hypothesis (H9) has a p-value of 0.245, which is greater than 0.05. This indicates that job satisfaction does not significantly mediate the relationship between work motivation and healthcare worker performance. This result implies that the direct effects of motivation might be more relevant in influencing performance than its indirect effects through job satisfaction.

10. The Influence of Work Environment on Healthcare Worker Performance through Job Satisfaction

Finally, the tenth hypothesis (H10) shows a p-value of 0.328, which is greater than 0.05. This indicates that job satisfaction does not significantly mediate the relationship between the work environment and healthcare worker performance. This result suggests that while the work environment affects job satisfaction, its indirect effect on performance through job satisfaction is not strong enough to be considered significant.

IV. CONCLUSION

In accordance with the research results described in the previous chapter, several conclusions can be drawn, including:

1. Work stress has a significant negative effect on healthcare worker performance.
2. Work motivation does not have a significant impact on healthcare worker performance.
3. The work environment does not significantly influence healthcare worker performance.
4. Work stress does not significantly affect job satisfaction.
5. Work motivation has a significant positive impact on job satisfaction.
6. The work environment significantly influences job satisfaction.
7. Job satisfaction does not significantly influence healthcare worker performance.
8. Job satisfaction does not mediate the relationship between work stress and healthcare worker performance.
9. Job satisfaction does not mediate the relationship between work motivation and healthcare worker performance.
10. Job satisfaction does not mediate the relationship between the work environment and healthcare worker performance.

A. Suggestions

Based on the conclusions and limitations of the research, the researchers suggest:

1. Suggestions to Company Management:
 - a. Due to the considerable negative effects of work stress on the performance of healthcare workers, healthcare organizations are encouraged to implement effective stress management programs. These programs may include access to counseling services, initiatives to promote work-life balance, and activities aimed at stress relief such as relaxation techniques or mindfulness training. By minimizing work stress, organizations can help sustain or enhance performance levels among healthcare staff.
 - b. While work motivation did not exhibit a major direct effect on performance in this study, it does have a positive relationship with job satisfaction. Therefore, organizations should prioritize enhancing motivation through recognition programs, professional development opportunities, and clear paths for career advancement. Such initiatives could indirectly improve performance by boosting job satisfaction.
 - c. Since the work environment has a substantial impact on job satisfaction, healthcare organizations should aim to cultivate a supportive and positive workplace. This can be accomplished by enhancing workplace safety, ensuring proper allocation of resources, and promoting a collaborative culture. A favorable work environment can enhance job satisfaction and potentially enhance the performance of healthcare workers.
 - d. Healthcare organizations are advised to conduct regular assessments and evaluations of the effectiveness of strategies related to stress management, motivation enhancement, and improvements to the work environment. Employee surveys, performance reviews, and various feedback mechanisms can be used to verify that the initiatives in place are achieving their goals and to make necessary adjustments.
2. Suggestions to Further Researchers:
 - a. Given that job satisfaction and motivation did not demonstrate a major influence on performance in this study, it is suggested that future research investigate additional factors that may have a stronger impact on the performance of healthcare workers. Aspects such as leadership style, organizational culture, or individual psychological resilience might offer further insights.
 - b. The effects of the work environment and motivation on performance may differ based on the context. Hence, future research should consider how interventions can be customized to meet the specific needs and characteristics of various contexts. This could assist in creating more effective programs aimed at enhancing performance in diverse work settings.

- c. It is advisable to conduct comparative studies involving different healthcare institutions that vary in characteristics, such as size, types of services offered, or geographic locations. Such research could yield greater insights into how the studied factors influence different contexts and help in formulating more effective policies.
- d. Future research could adopt a longitudinal approach to track changes in the performance and job satisfaction of healthcare workers over time. This approach would provide a clearer understanding of how interventions or alterations in the work environment and management practices impact long-term results.

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The Mobile Smart Water Supply Infrastructure Powered by Renewable Energy in Errabu Village, Sumenep, Madura, Indonesia

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ABSTRACT

Purpose: The mobile smart water supply infrastructure powered by renewable energy in Errabu Village, Sumenep, Madura, Indonesia, aims to enhance agricultural food security. This system integrates smart technology and renewable energy to optimize water resource management and support agriculture in impoverished and underdeveloped areas. Mobile and Smart Concept, allows flexibility in water distribution, enabling access to hard-to-reach areas. Utilizes sensors and IoT devices to monitor and manage water usage efficiently.

Design/methodology/approach: Renewable Energy, utilizes solarenergy to operate the water supply system, reducing dependence on fossil fuels. Enhances sustainability by reducing carbon emissions and environmental impact.

Findings: Solutions for Dry Land, employs water-saving drip or sprinkler irrigation technology to boost productivity in dry lands. Optimizes water usage for agriculture, thereby increasing yields on previously unproductive land. Food Security, with better access to water, farmers can enhance their agricultural output, contributing to local food security. Enables farmers to grow a variety of crops, increasing food diversity and income. Social and Economic Impact, enhances the capacity of local farmers through training and access to new technologies. By improving agricultural yields, it is expected to reduce poverty levels in the village. Implementation and Collaboration, collaboration between the government, educational institutions, and the community is necessary to design and implement this system. Seeking funding sources from the government or donor agencies to support the development of this infrastructure.

Paper type: Research paper

Keyword: Mobile, Smart, Water Supply, Renewable Energy.

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I. INTRODUCTION

Mobile Smart Water Supply Infrastructure Powered by Renewable Energy is an innovative concept that integrates mobile and intelligent systems with renewable energy sources to ensure efficient, sustainable, and accessible water distribution. Errabu Village, located in Sumenep on Madura Island, Indonesia, has been actively implementing renewable energy initiatives to enhance the quality of life for its residents. One notable project is the installation of solar-powered water pumps to support agricultural activities. These pumps utilize solar energy to extract water, providing a sustainable solution for irrigation needs. In addition to solar-powered water pumps, the village has benefited from the installation of solar-powered street lighting. The Ministry of Energy and Mineral Resources (ESDM) has installed 55 units of solar-powered street lights in Sumenep Regency, including Errabu

Village. This initiative aims to improve public safety and reduce reliance on conventional electricity sources. ESDM These efforts are part of a broader strategy to promote renewable energy in rural areas of Indonesia, aligning with the government's goal to achieve net-zero emissions by 2060. The adoption of renewable energy technologies in villages like Errabu not only addresses energy needs but also contributes to environmental sustainability and economic development.

A. Literature Review

Prototype Technology Robotic Automatic Green Irrigation for Sumber Surya Farmer Group in Errabu Village. The Robotic Automatic Green Irrigation technology is designed to support intelligent and efficient agricultural irrigation by integrating sensors, actuators, microcontrollers, and renewable energy sources. Key Components of the Technology, Soil Moisture Sensor Measures soil water content to determine irrigation needs. Type Capacitance-based soil moisture sensor. Weather Sensor, Function Monitors environmental parameters to aid in irrigation decision-making. DHT22 Measures air temperature and humidity. Pluviometer: Measures rainfall. Actuator Controls water flow based on sensor data. Type Pump motor for automated irrigation. Microcontroller or Mini Computer Processes sensor data and controls the actuators. Types: Arduino For basic applications. Raspberry Pi For more complex data processing. ESP32 Combines microcontroller functions with WiFi communication. Communication Module Facilitates communication between sensors, microcontrollers, and remote control devices. Types: WiFi (ESP8266/ESP32) For local networks. GSM For cellular networks. LoRa For long-range communication. Software and Algorithms Processes sensor data, automates decision-making, and provides a monitoring interface. Programming Languages Arduino IDE For Arduino. Python For Raspberry Pi. User interface for remote monitoring and system control. Materials for the Prototype Automatic Robotic Vehicle, A robotic framework that can be controlled using RC Control via an Android App. Sprayer system for water distribution in agricultural, plantation, or livestock areas. Water Tank 200 liters. Equipped with an automated spraying system. Energy Source Rechargeable Battery Can be recharged using solar panels, ensuring eco-friendly operation. Electronic Components PCB (Printed Circuit Board) For the main circuitry. Components like resistors, capacitors, transistors, and others. Mechanical Materials Robotic vehicle framework to protect electronic devices. Electrical and data cables with waterproof connectors for outdoor installations. Benefits of the Technology Irrigation Efficiency Automatically adjusts water distribution based on environmental data, reducing water wastage. Renewable Energy Utilizes solar panels for energy, minimizing reliance on fossil fuels. Remote Monitoring and Control IoT-based systems enable farmers to monitor and control irrigation via a mobile application. Improved Agricultural Productivity Provides a modern solution to ensure optimal crop yields through smarter irrigation. Lower Operational Costs Reduces irrigation expenses by leveraging solar energy and automation. Implementation Phases Needs Assessment Survey the land and irrigation requirements of the Sumber Surya Farmer Group. Prototype Design Develop the system based on local conditions and needs. Prototype Testing Conduct trials in partner agricultural areas to evaluate effectiveness. User Training Educate farmers on operating and maintaining the system. Evaluation and Optimization Collect feedback and refine the system for better performance [1]-[11]

II. METHODS

Conduct solar irradiance and wind speed analysis for energy generation potential. Survey existing water sources, including wells, rivers, and seasonal rainwater. Deploy mobile water supply units powered by solar energy. Local stakeholders in the planning and operation of the systems. Conduct workshops to ensure community understanding and ownership. Geographic mapping using drones or GPS tools. Set up solar-powered water pumps and IoT devices. Use modular systems for easy installation and testing. Monitor system performance and user satisfaction. Analyze the impact on water availability, energy savings, and productivity. Collect community feedback and refine the system for better performance [12]-[18]

1. Problem Identification

Objective: Define the key issues, such as water scarcity, lack of infrastructure, or energy dependency.

Actions: Conduct surveys to assess water availability and quality. Identify communities with limited access to water and electricity. Highlight environmental challenges (e.g., drought, unreliable rainfall).

2. Feasibility Study

Objective: Evaluate technical, economic, and environmental feasibility.

Actions: Analyze renewable energy potential (e.g., solar intensity, wind patterns). Assess geographical factors for infrastructure mobility. Estimate water demand (household, agricultural, and industrial use). Determine financial viability and potential funding sources.

3. Design and Planning

Objective: Develop a tailored infrastructure model.

Actions: Design modular and portable water supply systems (tanks, pumps, filtration units).

Integrate renewable energy components: Solar panels with inverters and battery storage. Small-scale wind turbines for hybrid energy systems. Plan IoT and smart system integration: Sensors for real-time monitoring of water quality and flow. AI-driven tools for demand forecasting and route optimization. Ensure compliance with local and international standards.

III. RESULTS AND DISCUSSION

Research Location: Errabu Village, Sumenep, Madura, Indonesia Overview of Errabu Village Errabu Village, located in the Sumenep Regency on Madura Island, Indonesia, is known for its rural landscape, agricultural reliance, and growing efforts to integrate renewable energy solutions into its infrastructure. The village is an ideal site for research on renewable energy and smart water systems due to its combination of limited and inconsistent water supply, particularly during dry seasons and abundance of solar energy due to the region's tropical climate. Villagers are often supportive of sustainable solutions that improve their quality of life and economic productivity. Located in a tropical climate with significant solar exposure throughout the year. Primarily an agricultural region relying on seasonal rainfall. Predominantly a farming community with a focus on rice, corn, and livestock. Existing projects include solar-powered street lighting and small-scale solar irrigation pumps. Inconsistent electricity supply in remote areas. Seasonal water scarcity leading to reduced agricultural productivity. High solar irradiance makes it a suitable location for solar-powered systems. Errabu faces challenges in accessing clean and consistent water, making it a relevant site for testing smart water infrastructure solutions. The village has demonstrated openness to renewable energy projects, which can facilitate research and implementation. Insights from Errabu can be scaled to other villages in Sumenep Regency or similar rural settings in Indonesia.

Portable infrastructure for areas lacking permanent water supply systems, such as disaster zones, rural areas, or temporary settlements. Units that can be transported by vehicles, drones, or other mobile platforms. IoT sensors for real-time monitoring of water quality, flow rate, and system efficiency. AI-driven decision-making systems to optimize water distribution based on demand patterns. Solar panels or wind turbines to power the pumps, sensors, and control systems, ensuring operations in remote areas without grid access. Energy storage systems (e.g., batteries) for nighttime or low-energy generation periods. Efficient water filtration and recycling mechanisms to minimize wastage. Reduced reliance on fossil fuels by utilizing clean energy sources. Modular designs that can be scaled up or down depending on population size and water demand. Easy integration with existing water distribution systems. Durable materials and technology designed to operate in extreme weather conditions and challenging terrains. Autonomous systems for self-repair and diagnostics. Rapid deployment in areas affected by natural disasters to provide clean drinking water powered by renewable energy. Serving communities without access to centralized water infrastructure. Delivering water to farmlands in off-grid areas using renewable energy-powered irrigation systems. Enhancing urban water management by integrating smart technologies for efficient water distribution and usage. Providing a sustainable water supply for troops in remote or conflict zones. Portable tanks with smart metering to monitor storage levels. On-demand water purification systems. Foldable or mounted solar panels. Small-scale wind turbines for hybrid energy solutions. Centralized dashboards accessible via mobile apps for operators. AI-powered demand forecasting and anomaly detection. Sensors for pH levels, turbidity, and contamination alerts. Connectivity via 5G, LoRaWAN, or satellite for remote monitoring. Reduces carbon footprint by replacing diesel-powered systems with renewable energy. Lowers operational costs in the long term with reduced reliance on fossil fuels and efficient water usage. Improves water access for underserved populations and critical operations. Capable of operating independently in off-grid or disaster-stricken areas. This concept has transformative potential in tackling global water scarcity, especially in areas where traditional infrastructure is impractical or unsustainable.

Errabu Village Mobile Smart Water Supply Infrastructure Powered by Renewable Energy Overview Errabu Village in Sumenep Regency, Madura, Indonesia, faces challenges related to water scarcity, seasonal variability, and limited access to modern water infrastructure. Implementing a mobile smart water supply infrastructure

powered by renewable energy can address these issues, offering sustainable, efficient, and adaptive solutions for the community. Proposed System Components

1. Mobile Water Supply Units Design, Portable tanks mounted on trailers or vehicles for mobility. Built-in pumps for water extraction and distribution. Serve remote households, farmlands, or areas affected by seasonal shortages. Adapt to changing demand patterns in different parts of the village.
2. Renewable Energy Sources Solar Power, Solar panels to power water pumps, IoT sensors, and monitoring devices. Energy storage via batteries for nighttime operations. Wind Energy (Optional), Small-scale wind turbines for supplementary energy generation. Hybrid Systems: A combination of solar and wind energy to ensure reliability during varying weather conditions.
3. Smart Technology Integration IoT Sensors, Monitor water quality (pH, turbidity, contamination). Track tank levels, pump status, and distribution metrics. AI and Data Analytics, Predict water demand and optimize distribution routes. Detect anomalies or system failures for quick resolution. Mobile App or Dashboard, Real-time monitoring and control for operators. Notifications for maintenance needs or water delivery schedules.
4. Water Filtration and Treatment, Onboard filtration units for purifying water before distribution. Options for desalination or treating brackish water where necessary.

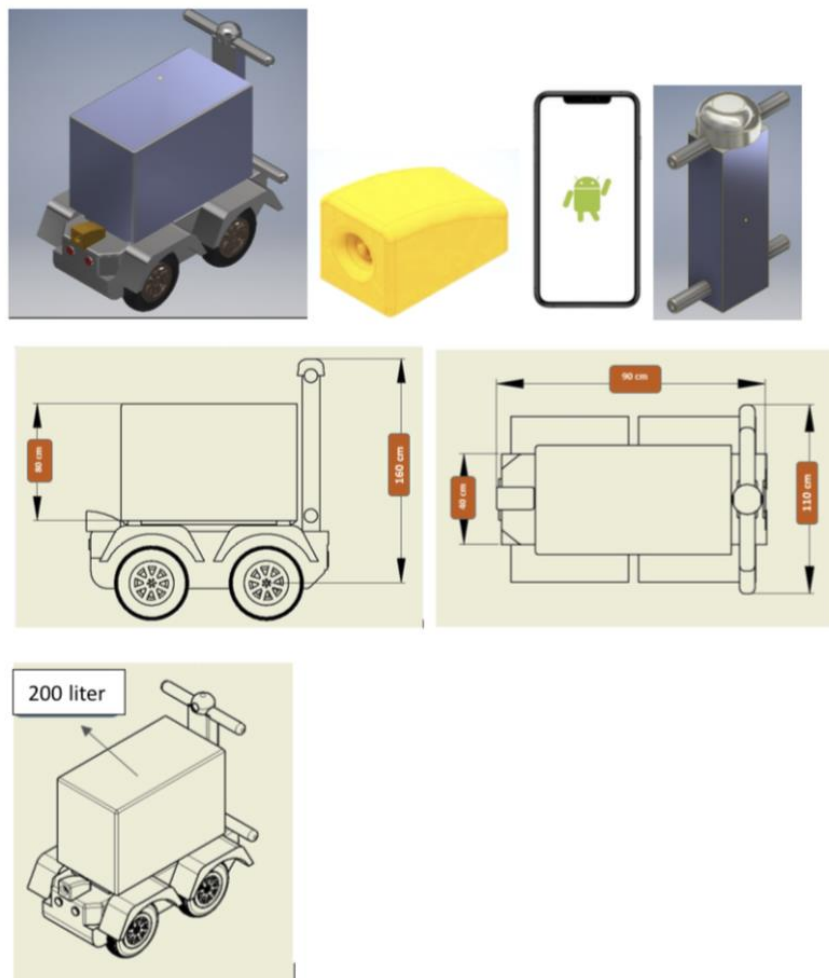


Figure 1. First Design

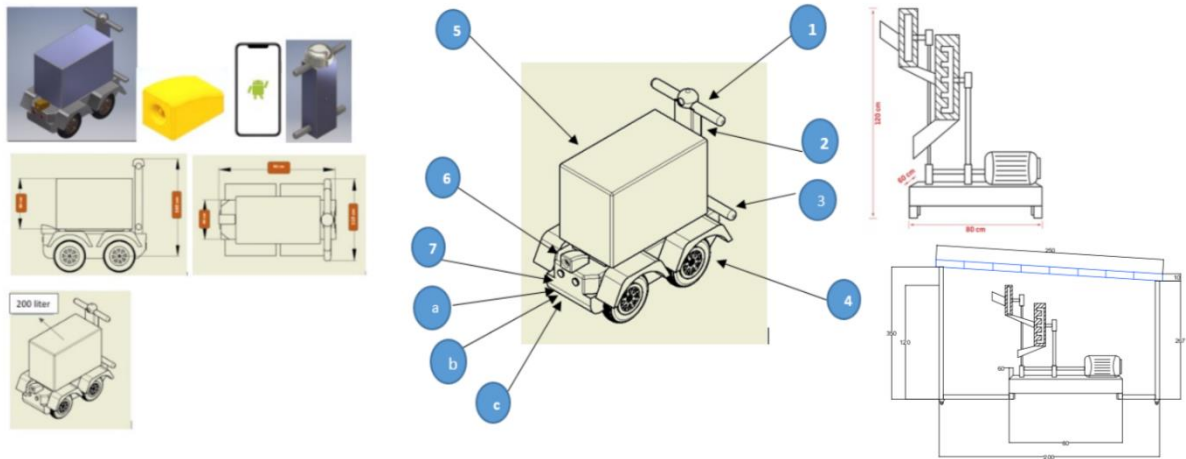


Figure 2. First Design integrated with Agriculture Product Processing

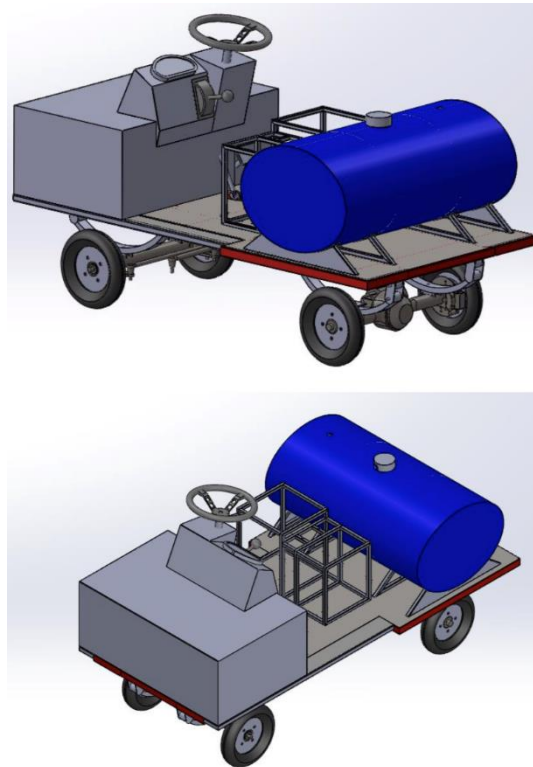


Figure 3. Design Development

IV. CONCLUSION

The mobile smart water supply infrastructure powered by renewable energy in Errabu Village, Sumenep, Madura, Indonesia, aims to enhance agricultural food security. This system integrates smart technology and renewable energy to optimize water resource management and support agriculture in impoverished and underdeveloped areas. Mobile and Smart Concept, allows flexibility in water distribution, enabling access to hard-to-reach areas. Utilizes sensors and IoT devices to monitor and manage water usage efficiently. Renewable Energy, utilizes solarenergy to operate the water supply system, reducing dependence on fossil fuels. Enhances sustainability by reducing carbon emissions and environmental impact. Solutions for Dry Land, employs water-

saving drip or sprinkler irrigation technology to boost productivity in dry lands. Optimizes water usage for agriculture, thereby increasing yields on previously unproductive land. Food Security, with better access to water, farmers can enhance their agricultural output, contributing to local food security. Enables farmers to grow a variety of crops, increasing food diversity and income. Social and Economic Impact, enhances the capacity of local farmers through training and access to new technologies. By improving agricultural yields, it is expected to reduce poverty levels in the village. Implementation and Collaboration, collaboration between the government, educational institutions, and the community is necessary to design and implement this system. Seeking funding sources from the government or donor agencies to support the development of this infrastructure.

Benefits for Errabu Village, Reduced reliance on diesel-powered pumps. Lower carbon footprint through the use of renewable energy. Mobile units can reach remote areas and adapt to varying seasonal needs. Onboard treatment systems ensure safe drinking water. Lower operating costs compared to traditional water supply methods. Improved agricultural productivity due to reliable irrigation. Ability to respond quickly to emergencies such as droughts or infrastructure failures. Scalable design allows for future expansion as the population grows. Technological Advancement Introducing smart systems fosters technological inclusion and empowers the local community.

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The Effect of Ownership Structure on Occupational Safety and Health Disclosures

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ABSTRACT

Purpose: This study aims to determine and analyze the effect of ownership structure on occupational safety and health disclosure in mining companies listed on the Indonesia stock exchange in 2020 - 2022 through the perspective of stakeholder theory.

Design/methodology/approach: The research method uses a quantitative approach with secondary data totaling 54 annual reports obtained using purposive sampling technique and data analysis techniques using multiple linear regression.

Findings: This study shows that foreign ownership and managerial ownership have significant positive influence on occupational safety and health disclosure, while institutional ownership has no influence.

Practical implications: The results of this study can be a consideration for the management of the company to design what is the right strategy regarding how the management maximizes the value of the company which will indirectly increase the benefits of managers who are also owners of the company.

Originality/value: This research is able to explain the factors that influence occupational safety and health disclosure

Paper type: Research paper

Keyword: *Ownership Structure, Occupational Safety and Health Disclosure.*

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I. INTRODUCTION

Corporate Social Responsibility disclosure is part of social responsibility accounting that communicates social information to stakeholders (Sari and Rani, 2015). One of the social and environmental responsibilities that needs to be disclosed is the Occupational Safety and Health Program. In accordance with the Global Reporting Initiative 4.0 (GRI) Occupational Safety and Health protection is part of the disclosure of corporate social responsibility and disclosing it in the annual and financial reports is included in the application of sustainability principles.

The number of work accidents in Indonesia is very high. In 2019 the number of work accidents in mining companies reached 157 work accidents. In 2020, there were 145 work accidents, and in 2021, the number of work accidents in mining companies reached 104 incidents with information on minor accidents totaling 36 incidents, severe accidents totaling 57 incidents, and fatal accidents totaling 11 incidents (Rizaty, 2022). Based on the national work accident data obtained, it shows that the number of work accidents that occur in Indonesia is still relatively high even though it tends to decrease from year to year with various kinds of prevention efforts that have been carried out by both companies and the government. Given the high number of accidents, it is important to investigate OHSPD practices in Indonesia.

This study uses the Stakeholder Theory perspective to explain the relationship between ownership structure and Occupational Safety and Health disclosure. Information related to Occupational Safety and Health disclosure can be used as a decision-making consideration for interested parties such as investors, creditors, shareholders,

customers, suppliers, and the community. Business success depends on the company's ability to maintain good relations with its stakeholders so that the social responsibility disclosure policy can be used as a decision consideration for interested parties such as investors, creditors, shareholders, customers, suppliers, and the community. and the environment, especially in the aspect of Occupational Safety and Health, must be integrated into the Corporate Governance Structure (Rashid, 2015).

Based on the Stakeholder Theory perspective, companies should be able to satisfy the interests of all stakeholders, not just shareholders. Ownership structure plays an important role in the corporate governance process, because it affects managers' incentives, determines the level of supervision and the level of corporate disclosure. This assumption gives confidence that ownership structure affects the disclosure of corporate social responsibility, especially in the field of Occupational Safety and Health. The ownership structure is believed to influence the course of the company's operational activities, which in turn affects the social responsibility program in order to achieve the company's goal of maximizing value (Fama and Jensen, 1983).

This argument is supported by several previous studies on the effect of ownership structure on disclosure of social and environmental responsibility, Occupational Safety and Health that have been conducted by Roman Cahaya (2012), Evangelinos et al. (2018), Jubaedah and Setiawan (2023), Pramita Sari and Staf Kopertis Wilayah (2016), Sari and Rani (2015). This study shows that ownership structure can be a consideration in the disclosure of corporate social responsibility, especially in the aspect of Occupational Safety and Health in order to increase the reputation and legitimacy of the company in the eyes of the public, but the results of this study are not convincing because there are differences in the results of the influence between variables.

Given the importance of a company publishing Occupational Safety and Health information in the Corporate Social Responsibility report, as well as the improvement of corporate ownership structure practices in each country that has different social and environmental characteristics, it is necessary to conduct further research to find out how the influence of ownership structure on Occupational Safety and Health disclosure in companies located in developed and developing countries, especially mining companies in Indonesia. Mining companies are one example of companies related to natural resources and have a high risk of accidents.

Only a few studies have shown that companies publish Occupational Safety and Health disclosure information in Corporate Social Responsibility reports at a satisfactory level. Deegan and Islam (2012) has analyzed eight Australian companies that provide detailed Occupational Safety and Health disclosures in management remuneration plans, primarily as a result of the company's failure to achieve Occupational Safety and Health objectives. In addition, Roca and Searcy (2012) found that Work Safety and Health information is highly required to be disclosed in Corporate Social Responsibility reports. They showed that high-risk industry sectors, such as mining, and the Oil and Gas industry, provide more Occupational Health and Safety information than the banking sector. This has attracted much attention from various stakeholder groups to investigate the factors that pressure companies in Indonesia to disclose Occupational Safety and Health.

This study contributes to the literature in several ways. First, it provides insight into the disclosure practices of occupational safety and health programs, which is an important part of employment-related Corporate Social Responsibility reporting that remains under-researched. Such investigations have rarely been examined in previous literature. Furthermore, this study uses the Global Reporting Initiative (GRI) as a disclosure benchmark. It is argued that the use of GRI is most representative of Corporate Social Responsibility issues around the world, including labor-related Corporate Social Responsibility issues in Indonesia (Roman Cahaya, 2012).

As said in stakeholder theory that the level of foreign ownership in the company will make managers try to disclose better Corporate Social Responsibility because foreign ownership in the agency is a party involved in the disclosure of Corporate Social Responsibility (Yani and Suputra, 2020). The existence of foreign ownership in the company, the demand for information will increase and diversify. Therefore, if the company has a contract with foreign investors in ownership and trading, Corporate Social Responsibility disclosure will be supported by the company (Yuliandari and Sekariesta, 2023). So that companies that have foreign ownership can motivate management to disclose company information more widely. This statement is supported by research (Guo & Zheng, 2021) which states that foreign ownership has an influence on the disclosure of Corporate Social Responsibility. This research is in line with research conducted Yuliandari and Sekariesta (2023) dan Yani and Suputra (2020), then the formulation of the hypothesis in this study is:

H1: Foreign Ownership has a significant positive influence on occupational safety and health disclosure

Institutional ownership is the proportion of shares owned by organizations or commercial entities. This institutional ownership also tends to be owned in large proportions, allowing managerial supervision to be tighter (Krisnawanto and Solikhah, 2019). This is because with a large amount of institutional ownership, the company will also maintain the company's image and reputation by disclosing its environmental social responsibility, one of which is the disclosure of occupational safety and health. With the implementation of this occupational safety and health disclosure program, it is hoped that it can build a good perception of institutional shareholders towards the company for its environmental responsibility disclosure. So the hypothesis in this study is as follows:

H2: Institutional Ownership has a significant positive influence on occupational safety and health disclosure.

The greater the manager's ownership in the company, the more productive the manager's actions in maximizing the value of the company which will indirectly increase the benefits of the manager who is also the owner of the company. Company managers will disclose social information in order to improve the company's image, even though they have to sacrifice resources for these activities. Therefore, the higher the level of managerial ownership, the higher the disclosure of Corporate Social Responsibility programs carried out (Sembiring, 2005). So the hypothesis in this study is as follows:

H3: Managerial Ownership has a significant positive influence on occupational safety and health disclosure.

II. METHODS

This research is causality research with a quantitative approach and secondary data. The population of this study uses mining companies listed on the Indonesia Stock Exchange in 2020-2022. Mining companies were chosen with the consideration that the mining sector is very vulnerable to work accident problems, and has an obligation to report finances to interested parties, both internal and external to the company. The financial report data used is go-public company data that has been audited by the Public Accounting Firm. The sampling method uses Purposive sampling with several predetermined criteria, namely, mining companies that provide annual reports or annual reports and sustainability reports or sustainability reports during 2020-2022 in a row, disclose their social and environmental responsibility information, and have all the information needed in this study. Based on these criteria, 54 company annual reports were selected that met the criteria as samples.

The dependent variable in this study is the disclosure of Occupational Safety and Health. The measurement of Occupational Safety and Health disclosure refers to the GRI G4 Index. This study uses the disclosure scoring method or disclosure index. If the company discloses the information as stated in the GRI index item, it will be given a value of 1, if it does not disclose it will be given a value of 0. If the company discloses all the information contained in the OHS item in the GRI, the maximum value of using this GRI index is 100%. This research refers to research Roman Cahaya (2012).

The independent variable in this study uses ownership structure with sub-variables of foreign ownership, family ownership, and managerial ownership. Foreign ownership refers to Jubaedah and Setiawan (2023) and Pramita Sari and Staf Kopertis Wilayah (2016) which are measured as the proportion of shares owned by foreign owners of the total shares issued by a company. While institutional ownership is measured as the proportion of shares owned by institutions to the number of shares issued by the company, this measurement refers to the research of Pramita Sari and Staf Kopertis Wilayah (2016). Managerial ownership refers to the research of Jubaedah and Setiawan (2023) and (Pramita Sari and Staf Kopertis Wilayah, 2016) which is measured as the proportion of ordinary shares owned by managerial parties to the total number of shares issued by the company.

The data collection method used is a literature-based document study. Where the data used in this study is secondary data obtained from financial report data and company annual reports.

This study uses the following equation to test the ownership structure of Occupational Safety and Health disclosure, as follows:

$$OHSPD = \alpha + \beta1FRGN + \beta2INST + \beta3MNGR + e$$

Description:

OHSPD : Occupational Health and Safety Program Disclosure

α : Konstanta (Intercept)

$\beta1FRGN$: Foreign Ownership

$\beta2INST$: Institutional Ownership

$\beta3MNGR$: Managerial Ownership

e : Error

III. RESULTS AND DISCUSSION

The results of descriptive statistical analysis of the research variables can be seen in Table 1 below:

Table 1. Descriptive Statistic

<i>Variable</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Mean</i>	<i>Std. Dev</i>
-----------------	----------------	----------------	-------------	-----------------

FRGN	98,86	.00	35,81	29,81
INST	100,00	.00	68,75	27,82
MNGR	87,42	.00	8,28	20,29
OHSPD	72,73	.00	38,72	20,91
N	54			

Source: Analyze Data, 2024

Notes: FRGN = Foreign Ownership; INST = Institutional Ownership; MNGR = Managerial Ownership; OHSPD = Occupational Safety and Health Disclosure Program

The results of descriptive statistical analysis of occupational safety and health disclosure variables, foreign ownership, institutional ownership, and foreign ownership are presented in Table 1. Occupational safety and health disclosure variables, foreign ownership, and institutional ownership have a mean value greater than the standard deviation so that the data on these variables are homogeneous. This shows that the data between one another does not have a far deviation of data. Meanwhile, managerial ownership has a mean value that is smaller than the standard deviation so that the data distribution on these variables is heterogeneous.

Tabel 2. Classic Assumption Test

Criteria	Normalitas	Multikolonieritas	Heteroskedastisitas	Autokorelasi
A Sig K-S	0,808			
VIF		<10		
Glejser			Sig>0,05	
Durbin- Watson				1,6800 < 1,944 < 2,320

Source: Analyze Data, 2024

Model Analysis

From the results of the adjusted R square test analysis, it is known that the adjusted R square value is 27.5%, so the independent variables consisting of foreign ownership (X1), institutional ownership (X2), and managerial ownership (X3) are able to explain 27.5% of changes in the dependent variable. While 72.5% is explained by other variables outside this research model. Each independent variable is able to explain 9.16% for each variable. This value is quite good, considering that there are actually many independent variables.

Classical Assumption Testing

The test results show that all classical assumptions have been met. In the normality test, the significance value shows 0.808 > 0.05, which means that the data distribution is normal and means that this research data fulfills the assumption of normality. The heteroscedasticity test results show a significant value of each variable is greater than 0.05, which means there is no heteroscedasticity in the regression equation so that the regression model is suitable for basic prediction. The VIF (Variance Inflation Factor) test results are smaller than 10 for all independent variables, which means there is no multicollinearity between the independent variables. The test results show the Durbin Watson value is 1.944, where this value meets the conditions $du < d < 4 - du$ which means there is no autocorrelation.

Tabel 3. Multiple Regression Analysis Results

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Sig.</i>
<i>Constant</i>	51,72	2,75	18,78	
<i>FRGN</i>	-0,14	0,041	-3,49	0,01
<i>INST</i>	-0,06	0,044	-1,44	0,15
<i>MNGR</i>	-0,42	0,052	-8,106	0,00

Source: Analyze Data, 2024

The results of multiple regression calculations using SPSS assistance, obtained the results as in Table 2. The regression results in Table 2 show that the form of the relationship between the dependent variable and the independent variables can be described in the multiple regression equation as follows:

$$OHSPD = \alpha + \beta_1FRGN + \beta_2INST + \beta_3MNGR + e$$

$$= 51,72 - 0,14 - 0,06 - 0,42 + e$$

Tabel 4. Summary of Hypothesis Test

<i>Variable</i>	<i>Sign Prediction</i>	<i>Coefficient</i>	<i>Prob α=0.5</i>	<i>Result</i>
<i>H1 Foreign Ownership</i>	<i>Positive</i>	-0,14	0,01	<i>Accepted</i>
<i>H2 Institutional Ownership</i>	<i>Positive</i>	-0,06	0,15	<i>Rejected</i>
<i>H3 Managerial Ownership</i>	<i>Positive</i>	-0,42	0,00	<i>Accepted</i>

Source: Analyze Data, 2024

From the results obtained by this study, it was found that there was no effect of institutional ownership on occupational safety and health disclosure. The results of this study are not in line with stakeholder theory, where in this stakeholder theory the company tries to increase the value of the company in the eyes of stakeholders by carrying out its social and environmental responsibilities, one of which is by disclosing occupational safety and health. The results of descriptive statistical analysis show that the level of corporate disclosure of the social environment, especially the disclosure of occupational safety and health, is quite low.

This is assumed because companies focus more on the implementation of social and environmental responsibilities compared to the disclosure of annual reports and sustainability reports. Only companies that really care about the environment have a high level of occupational safety and health disclosure.

IV. CONCLUSION

This study examines the effect of ownership structure proxied by foreign ownership, institutional ownership, and management ownership on occupational safety and health disclosure in mining sector companies listed on the Indonesia Stock Exchange (IDX). The results of this study confirm that there is no effect of foreign ownership and institutional ownership on occupational safety and health disclosure. However, managerial ownership has an influence on occupational safety and health disclosure. This means that managerial ownership has a tendency to

have a fairly strong influence on occupational safety and health disclosure. The greater the manager's ownership in the company, the more productive the manager's actions in maximizing company value which will indirectly increase the benefits of managers who are also company owners.

This study only uses disclosure scoring method or unweighted disclosure index to measure occupational safety and health disclosure, for further research can be developed by using weighted index or content analysis method.

This study has limitations in the use of samples that are only limited to mining companies listed on the Indonesia Stock Exchange (IDX) using data from 2020-2022 so that the information generated cannot be taken into consideration for non-mining companies listed in Indonesia.

For further research, it can use a larger research sample so that the research contribution is getting better. In addition, a more recent period in research is also better because it can describe the current situation.

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Economic Feasibility Analysis of The Construction of the Tanjung Kramat (HM. Agus) Road Section of East Kutai District

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ABSTRACT

Purpose: Road construction is very much needed in an effort to improve the regional economy, open access to the distribution of goods/services & people as well as in regional development efforts. This activity requires technical and economic planning to ensure that the activity is feasible to carry out. For this reason, it is necessary to conduct an analysis of the economic feasibility of constructing the Tanjung Keramat (HM. Agus) road in East Kutai Regency.

Design/methodology/approach: This analysis uses the compound interest calculation method, Net Present Value (NPV) and Benefit Cost Ratio (BCR).

Findings: The results obtained from the BOQ and RAB calculations showed that the total construction costs were Rp. 46,600,000,000.00. The results of the present value calculation over a 20 year life of construction costs + routine & periodic maintenance costs are Rp. 65,677,946,740.00. The results of calculating the benefits of Vehicle Operational Costs (BOK) for BENEFITS' current value are IDR 276,921,095,567.00. The results of the economic feasibility are declared "WORTH IT" to run because the results of the calculation of the NPV value are IDR 276,921,095,567.00 > than 1 and the BCR value is 4.22 > 1 NVP>1 so that the investment in road construction is a "WORTH IT" investment to carry out.

Keywords: Economic Feasibility, Road Development, East Kutai.

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I. INTRODUCTION

In supporting the development of East Kutai Regency as a whole, the road infrastructure sector is one of the lifeblood of people's economic growth, so the accuracy of providing community needs and economic products is very important. In connection with economic development, investment in roads and/or bridges has a broad influence both on road and/bridge users and on the region as a whole. For this reason, appropriate policies are needed in road management so that they can support regional development and economic growth.

Strategic issues faced in road management, especially urban or district roads include the inadequacy of primary and collector road network systems in serving continuous traffic flow and/or urban/district traffic flow. There are many obstacles or problems faced by regions in efforts to fulfill these road traffic facilities and infrastructure. These problems include funding, priority scale for road handling, land acquisition and other problems of high social concern. This has led to increasingly higher economic and social costs in providing road infrastructure in regions (cities/districts).

One of the successes of city/district development is the availability of good transportation facilities and infrastructure in the area. Apart from playing a role in supporting the smooth running of socio-economic activities, it will also support physical development in the area concerned. The development of the city of Sangatta, East Kutai is very rapid, both in terms of population growth and the urban facilities and infrastructure it has. To further optimize activities including road construction, improvement and maintenance, the East Kutai Regency Government, through the Public Works Department, considers it necessary to have systematic and effective

planning for these activities, with the hope that thorough planning results will be obtained that meet technical requirements and rules and can applied in the field as part of quality transportation development activities to support community economic development and mobilization.

The target of developing transportation infrastructure in long-term development is to support the creation of an independent and reliable economy through the implementation of a transportation system, while the target to be achieved is to increase the role of the national transportation system in meeting the mobility needs of people, goods, services and realizing an effective and efficient national transportation system. Effective and efficient means the arrangement of a service system or connectivity of the road infrastructure in an effort to fulfill the community's need for transportation. In the end, a transportation system that is connected, cheap, safe, comfortable and will have an impact on improving the economy and development of a region will be created.

To support transportation development in East Kutai Regency and accelerate the development of the people's economy and regional development in the Sangkulirang District area, the Public Works Department (especially the Highways Sector) of East Kutai Regency plans to build the Tanjung Keramat (H.M. Agus) road section which is a new access road. connecting the Mandu village areas in Sangkulirang District. With the construction of the new Tanjung Keramat (H.M. Agus) access road, it is hoped that it will be able to provide better transportation services in terms of quantity, quality and benefits which will have an impact on the economy of the region as well as regional development efforts in Sangkulirang District, East Kutai Regency.

A. Objectives

The main objectives of the research we conducted are:

1. Obtain a calculation of project costs and benefit costs in implementing the construction of the new Tanjung Keramat access road (HM. Agus).
2. Obtain an investment decision for the new Tanjung Keramat access road construction project (HM. Agus).

B. Literature Review

1. Feasibility Study

Every project activity for any purpose will definitely have a negative impact, the most important thing is that it must be carried out in such a way that the negative impact that arises is as small as possible and a solution must be found. The bigger the project, the bigger the investment, so the wider the scope and deeper the nature of the assessment and the greater the negative impact.

The purpose of conducting a feasibility study is to avoid investing too much capital in activities that turn out to be unprofitable. Of course, this feasibility study will cost money, but this cost is relatively small when compared with the risk of failure of a project involving large investments.

2. Definition of highway

Roads are land transportation infrastructure which includes all parts of the road, including complementary and complementary buildings intended for traffic, which are on the ground surface, above the ground surface, above the water surface and below the ground and water surface, except railways. , lorry roads and cable roads (Government Regulation Number 34 of 2006).

Highways are land paths on the surface of the earth made by humans with the shape, size and type of construction so that they can be used to channel traffic, people and vehicles that transport goods from one place to another easily and quickly. (Clarkson H. Oglesy. 1999).

3. Investment Calculation Method

a. Cash Flow

Cash flows related to a project can be grouped into 3 parts, namely:

1. Initial Cash Flow
Cash flow patterns related to investment expenditure must be identified, such as payments for land, embankments, plant and equipment.
2. Operational Cash Flow
Determining how much operational cash flow will be each year is the starting point for assessing the profitability of the investment proposal.
3. Terminal Cash Flow
Terminal cash flow generally consists of cash flow of the residual value of the investment and working capital withdrawals.

b. Net Present Value (NPV) Method

This method calculates the difference between the present value of an investment and the present value of net cash receipts (operational and terminal cash flow) in the future. If the present value of future net cash receipts is greater than the present value of the investment, then the project is said to be profitable and therefore accepted.

$$\sum_{i=1}^n \frac{NB_i}{(1+i)^i} \dots\dots\dots (1)$$

- Where:
- $i=1$
 - NB= Net Benefit – Cost
 - i = Discount factor
 - n = Year (time)

c. Benefit Cost Ratio (BCR) Method

Benefit Cost Ratio (BCR) is an analysis method used to assess the feasibility of an investment project. BCR is a comparison between the total expected benefits of a project and the total expected costs of the project. The formula for calculating BCR is:

$$BCR = PWB / PWC \dots\dots\dots (2)$$

- Where:
- PWB: Present value of income
 - PWC: Present value of expenditure costs

BCR greater than 1 indicates that the expected benefits exceed the costs incurred, which indicates the project has positive economic value. In this case, the investment is considered feasible. Conversely, a BCR of less than 1 indicates that the investment is unfeasible.

II. METHODS

The economic feasibility study is one of the stages in determining whether a project is economically profitable to carry out or not. Of course, the economic feasibility study activity involves several technical studies of the planning results of the road sections that will be studied. Where the budget value used for development (Construction Costs) is required which will then be compared with the value of the benefits that will be generated from the road operational activities, so that the comparison of costs and benefits generated can be known using investment calculations such as NPV, IRR, BCR and so forth.

The location of this investment feasibility study is in the Sangkulirang District area, precisely connecting the road access to Mandu village. Geographically, the coordinates of the feasibility study location are at the work starting point 0°59'09.517" North Latitude 117°58'29.658" East Longitude and the work ending point 0°59'56.613" North Latitude 117°58'42.906" East Longitude.

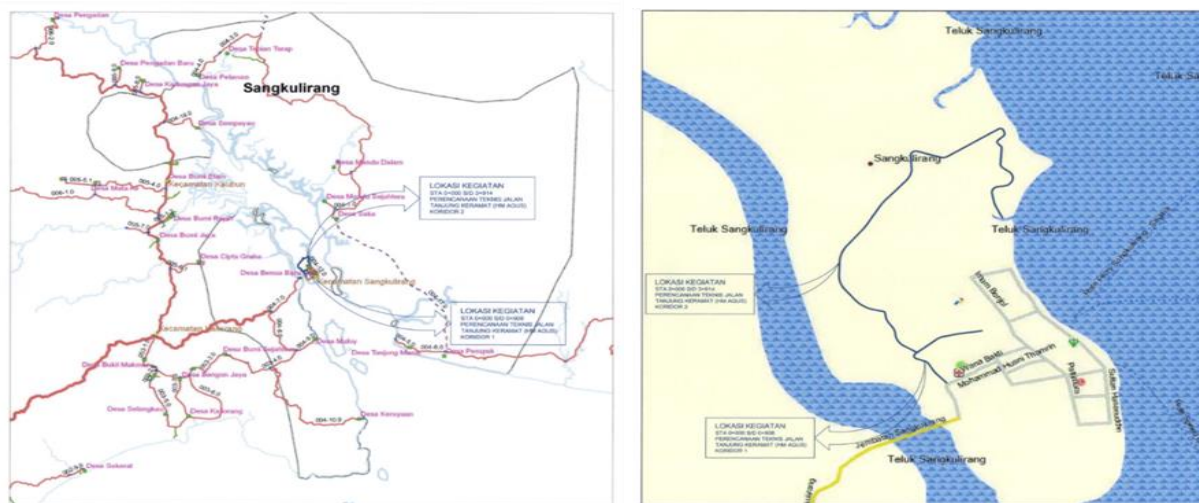


Figure 1. Research location

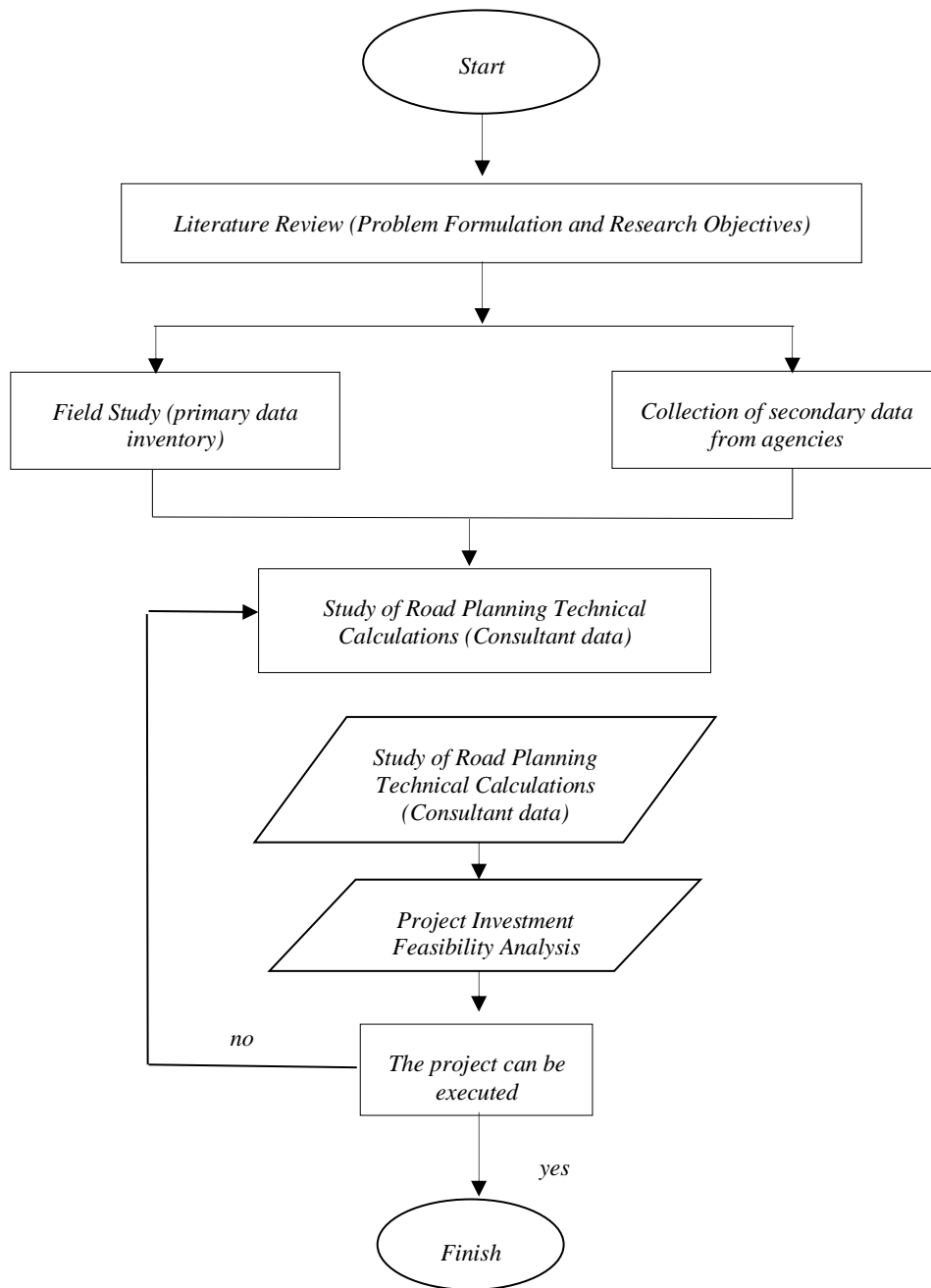


Figure 2. Research flow chart

A. Data Collection

1. Method of collecting data

In conducting research, the data collected will be used to solve existing problems so the data must be truly trustworthy and accurate. In scientific research, data collection methods are intended to obtain materials that are relevant, accurate and reliable. The data collection method used in this research is:

a. Interview

Interviews as a technique for searching and gathering information are carried out by visiting directly the relevant agencies such as several implementing contractors at the project location, planning consultants, MK consultants, community leaders and related agencies to ask for information about something they know.

b. Observation

Observation is careful and systematic observation and recording of the symptoms (phenomena) being studied. Observations were carried out in the field involving several project supporting elements.

c. Literature review

Data collection was carried out by reading literature books, journals, the internet, magazines, and previous research related to the research being carried out.

2. Data Types and Sources

The data needed in this research are:

a. Primary Data

Raw data obtained from researchers' observations of research study locations in the field regarding technical conditions, environment, land, soil condition data, LHR data, hydrological data, local price data, geometric condition data, documentary photographs and others that are used as a basis for planning.

b. Secondary Data

Data obtained by researchers from several books, research and articles related to research material, as well as processing data obtained from related agencies or data related to planning that has been carried out as a basis for the further research process carried out by researchers.

III. RESULTS AND DISCUSSION**A. Results****1. Construction Cost Budget**

Cost estimates are made based on the division of functional elements so that they can provide an overview of the costs required for each of these elements. Basically, cost estimation is the process of calculating the volume of work, estimated prices for various kinds of materials and work that will be carried out in road construction. In this feasibility study stage, the calculation process is not carried out in detail, especially regarding the unit costs of work. The cost calculation results show that the cost of carrying out physical work for the construction of the Tanjung Keramat Road Section (HM. AGUS) is worth IDR. 46,600,000,000.00 (Forty-Six Billion Six Hundred Million Rupiah).

2. Maintenance Costs

To ensure that the flexible pavement structure remains durable for the life of the plan, maintenance is carried out periodically, planned for 5 years, with an overlay (re-coating) with a thickness of 4 cm. During the life of the new road, routine and periodic maintenance needs to be carried out. The large percentage of routine and periodic maintenance costs to the project value is shown as follows:

Table 1. Skema Anggaran Perawatan Rutin dan Berkala

<i>Years</i>	<i>Routine Maintenance (%)</i>	<i>Periodic Maintenance (%)</i>
1	1,92	-
2	1,86	-
3	1,81	-
4	1,75	-
5	-	10,47
6	1,65	-
7	1,60	-
8	1,55	-

<i>Years</i>	<i>Routine Maintenance (%)</i>	<i>Periodic Maintenance (%)</i>
9	1,51	-
10		9,01
11	1,42	-
12	1,38	-
13	1,34	-
14	1,30	-
15		7,76
16	1,22	-
17	1,19	-
18	1,15	-
19	1,12	-
20		6,68

Source: ITS Surabaya research, 2016

From the table above, a calculation is then carried out by entering the cost value from the routine and periodic budget which is multiplied by the financing scheme in the table above to produce the following amount of maintenance financing for 20 years:

Tahun	n	Initial Cost	Cost				Future Value (FV) (Rp)	Present Value (PV) = FV x [1/(1+i) ⁿ] (Rp)	
			Routine maintenance		Periodicall maintenance				Total Cost (Rp)
			(%)	(Rp)	(%)	(Rp)			
2023	0	46,600,000,000					46,600,000,000	46,600,000,000	
2024	1		1.92%	894,720,000			894,720,000	864,463,768	
2025	2		1.86%	866,760,000			866,760,000	809,129,735	
2026	3		1.81%	843,460,000			843,460,000	760,752,595	
2027	4		1.75%	815,500,000			815,500,000	710,661,137	
2028	5		-		10.47%	4,879,020,000	4,879,020,000	4,108,003,921	
2029	6		1.65%	768,900,000			768,900,000	625,500,645	
2030	7		1.60%	745,600,000			745,600,000	586,034,860	
2031	8		1.55%	722,300,000			722,300,000	548,522,967	
2032	9		1.51%	703,660,000			703,660,000	516,297,136	
2033	10		-		9.01%	4,198,660,000	4,198,660,000	2,976,509,066	
2034	11		1.42%	661,720,000			661,720,000	453,242,278	
2035	12		1.38%	643,080,000			643,080,000	425,579,603	
2036	13		1.34%	624,440,000			624,440,000	399,269,529	
2037	14		1.30%	605,800,000			605,800,000	374,252,209	
2038	15		-		7.76%	3,616,160,000	3,616,160,000	2,158,451,979	
2039	16		1.22%	568,520,000			568,520,000	327,868,845	
2040	17		1.19%	554,540,000			554,540,000	308,991,784	
2041	18		1.15%	535,900,000			535,900,000	288,507,735	
2042	19		1.12%	521,920,000			521,920,000	271,479,658	
2043	20		-		6.68%	3,112,880,000	3,112,880,000	1,564,427,290	
						Total Cost	65,677,946,740		

Figure 2. Routine and Periodic Maintenance Budget Calculation

Source: calculation results

3. Benefit Analysis

The benefits that will be analyzed here are savings on non-fixed BOK (running costs). The analysis of pavement benefits will compare the BOK between existing road pavement (without project) and new road pavement (with project).

Table 2. Non-Permanent BOK Recapitulation Without Project

Vehicle type	Component BOK Not Fixed (Rp/Km)					Not Fixed BOK (Rp/Km)
	BBM	Oil	Part	Wages	Tire	
Sedan	635	175.02	1368.73	2724	201,195.00	206,097.75
Pass. Car	735	140.02	920.49	2724	328,937.00	333,456.51
Small Bus	1,034	210.04	2488.77	8304	621,075.00	633,111.81
Big Bus	1,519	420.05	1928.80	5527	660,030.00	669,424.85
Light Truck	1,274	210.05	1699.05	6342	745,290.00	754,815.10
Medium Truck	1,621	420.06	5613.35	8207	429,140.00	445,001.41
Heavy truck	3,198	840.11	5602.98	8510	1,227,450.00	1,245,601.09

Source: calculation results

Table 3. Non-Permanent BOK Recapitulation With Project

Vehicle type	BBM	Component BOK Not Fixed (Rp/Km)				Tire	Not Fixed BOK (Rp/Km)
		Oil	Part	Wages			
Sedan	560	175.02	463.85	1507		74,630.00	77,336.259
Pass. Car	679	140.02	311.94	1507		151,746.00	154,383,868
Small Bus	875	210.04	836.37	4715		302,325.00	308,961.332
Big Bus	1,202	420.05	700.37	3274		660,030.00	665,626.227
Light Truck	1,186	210.05	508.42	3391		362,790.00	368,084.847
Medium Truck	1,671	420.06	1,556.38	4228		429,140.00	437,015.841
Heavy truck	2,569	840.11	1,571.21	4399		1,227,450.00	1,236,828.915

Source: calculation results

4. T Total BOK Savings

From the results of the calculation of Vehicle Operational Costs (BOK), the savings values are as follows:

n	Tahun	LHRT Golongan Kendaraan				Penghematan BOK Without Project				Penghematan BOK With Project				Total Penghematan	(P/F, 3.5%, n)
		(kend/tahun)				(Rp/kend)				(Rp/kend)					
		Sedan / jeep	Truk Ringan	Truk Sedang	Truk Berat	Sedan/jeep	Truk Ringan	Truk Sedang	Truk Berat	Sedan/jeep	Truk Ringan	Truk Sedang	Truk Berat		
		a	b	c	d	e	f	g	h	i	j = b x f	k = c x g	l = d x h		
0	2022	10,995	2,950	555	380	206,098.31	333,456.37	445,001.38	1,245,601.19	2,183,611,621.60	983,696,285.07	246,975,767.63	473,328,450.32	3,887,612,124.62	3,887,612,125
1	2023	10,966	3,054	575	393	213,311.75	345,127.34	460,576.43	1,289,197.23	2,339,176,688.91	1,054,018,898.48	264,831,448.13	507,041,269.19	4,165,068,304.71	4,310,845,695
2	2024	11,350	3,161	596	407	220,777.66	357,206.80	476,696.61	1,334,319.13	2,505,826,496.33	1,129,130,687.28	284,111,177.55	543,155,283.59	4,462,223,644.75	4,780,045,524
3	2025	11,748	3,272	617	421	228,504.88	369,709.04	493,380.99	1,381,020.30	2,684,475,367.19	1,209,687,964.27	304,416,069.51	581,841,518.67	4,780,420,919.64	5,300,138,124
4	2026	12,160	3,387	639	436	236,502.55	382,648.85	510,649.32	1,429,356.01	2,875,871,057.32	1,296,031,660.98	326,304,917.03	623,283,180.83	5,121,490,816.16	5,877,028,509
5	2027	12,586	3,506	662	451	244,780.14	396,041.56	528,522.05	1,479,383.47	3,080,802,885.43	1,388,521,714.94	349,881,596.25	667,676,525.39	5,486,882,722.01	6,516,695,470
6	2028	13,027	3,629	686	467	253,347.45	409,903.02	547,020.32	1,531,161.89	3,300,357,211.19	1,487,538,045.96	375,255,939.81	715,231,785.91	5,878,382,982.88	7,226,033,592
7	2029	13,483	3,757	711	483	262,214.61	424,249.62	566,166.03	1,584,752.56	3,535,439,575.37	1,593,905,829.16	402,544,048.49	766,174,169.86	6,298,063,622.89	8,012,895,743
8	2030	13,955	3,889	736	500	271,392.12	439,098.36	585,981.84	1,640,218.90	3,787,277,041.37	1,707,653,516.52	431,282,636.26	820,744,925.11	6,746,958,119.26	8,884,455,423
9	2031	14,444	4,026	762	518	280,890.84	454,466.80	606,491.21	1,697,626.56	4,057,187,360.88	1,829,683,341.35	462,146,299.92	879,202,482.40	7,228,219,484.55	9,851,321,204
10	2032	14,950	4,167	789	536	290,722.02	470,373.14	627,718.40	1,757,043.49	4,346,294,262.79	1,960,044,870.92	495,269,817.20	941,823,679.21	7,743,432,630.12	10,922,876,471
11	2033	15,474	4,313	817	555	300,897.30	486,836.20	649,688.54	1,818,540.01	4,656,084,744.63	2,099,724,526.46	530,995,540.02	1,008,905,070.76	8,295,509,881.87	12,111,193,217
12	2034	16,016	4,464	846	574	311,428.70	503,875.47	672,427.64	1,882,188.91	4,987,842,066.33	2,249,300,080.26	568,873,785.55	1,080,764,334.42	8,886,780,266.57	13,428,535,126
13	2035	16,577	4,621	876	594	322,328.70	521,511.11	695,962.61	1,948,065.52	5,343,242,942.14	2,409,902,826.92	609,663,246.35	1,157,741,774.14	9,520,550,789.54	14,889,723,105
14	2036	17,158	4,783	907	615	333,610.21	539,764.00	720,321.30	2,016,247.82	5,724,083,976.91	2,581,691,193.22	653,331,420.31	1,240,201,932.01	10,199,308,522.45	16,509,564,838
15	2037	17,759	4,951	939	637	345,286.57	558,655.74	745,532.55	2,086,816.49	6,131,944,142.85	2,765,904,548.62	700,055,061.52	1,328,535,314.61	10,926,439,067.61	18,305,596,916
16	2038	18,381	5,125	972	659	357,371.60	578,208.69	771,626.19	2,159,855.07	6,568,847,321.07	2,963,319,519.31	750,020,652.82	1,423,160,242.40	11,705,347,735.59	20,296,909,565
17	2039	19,025	5,305	1,007	682	369,879.60	598,445.99	798,633.10	2,235,449.99	7,036,959,441.45	3,174,755,980.81	804,223,534.25	1,524,524,830.66	12,540,463,787.18	22,506,063,760
18	2040	19,691	5,491	1,043	706	382,825.39	619,391.60	826,585.26	2,313,690.74	7,538,214,730.84	3,401,079,277.82	862,128,427.35	1,633,109,111.73	13,434,531,547.74	24,954,497,197
19	2041	20,381	5,684	1,080	731	396,224.28	641,070.31	855,515.75	2,394,669.92	8,075,446,997.83	3,643,843,621.68	923,957,004.88	1,749,427,308.21	14,392,674,932.60	27,669,936,518
20	2042	21,095	5,883	1,118	756	410,092.13	663,507.77	885,458.80	2,478,483.37	8,650,893,421.51	3,903,416,194.10	989,942,934.32	1,874,030,268.24	15,418,282,818.17	30,679,127,445
TOTAL PENGHEMATAN (BENEFT)														276,921,095,567	

Figure 3. Calculation of BOK Saving Costs

Source: Calculation Results

Based on the table above, the total non-fixed BOK savings if new road pavement is built is IDR 276,921,095,567.00.

5. Economic Feasibility Analysis

Based on the cost and benefit calculations above, the net present value cost (NPV) of new road pavement is IDR 65,677,946,740.00. Meanwhile, the net present value benefit / NPV is IDR 276,921,095,567.00 (positive value). So the value of the B/C ratio = 276,921,095,567/ Rp. 65,677,946,740.00 = 4.22 is obtained. So based on the results of the B/C calculation it is "WORTH IT" because the calculation value is 4.22 > 1

IV. CONCLUSION

The conclusions from the research conducted on the economic feasibility investment analysis for the construction of the new Tanjung Keramat (HM. Agus) access road, Sangkulirang District, East Kutai Regency are as follows:

1. Based on technical data for the construction of the new Tanjung Keramat (HM. Agus) access road, Sangkulirang District, East Kutai Regency as well as BOQ and RAB calculations, it was found that the total construction cost (cost of construction) was IDR. 46,600,000,000.00 (Forty-Six Billion Six Hundred Million Rupiah). Then a calculation is carried out on the present value over a 20-year life of construction costs + routine & periodic maintenance costs to Rp. 65,677,946,740.00 (Sixty-Five Billion Six Hundred Seventy-Seven Million Nine Hundred Forty-Six Thousand Seven Hundred and Forty Rupiah). The results of calculating the benefits from Vehicle Operational Costs (BOK) for the present value benefit are IDR 276,921,095,567.00 (Two Hundred SeventySix Billion Nine Hundred Twenty-One Million Ninety-Five Thousand Five Hundred Sixty-Seven Rupiah).
2. From the results of the financial economic analysis of the construction of the new Tanjung Keramat (HM. Agus) access road, Sangkulirang District, East Kutai Regency, it is "WORTH" to be implemented. These eligibility conditions can be seen from the calculation results of the NPV value of IDR 276,921,095,567.00 (Two Hundred Seventy-Six Billion Nine Hundred Twenty-One Million Ninety-Five Thousand Five Hundred Sixty-Seven Rupiah) in the 20th year and the BCR Value of $4.22 > 1$ $NVP > 1$ means the investment is feasible.

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The Impact of Intrinsic Motivation and Extrinsic Motivation on The Performance Employees of ABC Hospital Surabaya

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ABSTRACT

Purpose: This study aims to find and analyze the influence of intrinsic motivation variables on employee performance, extrinsic motivation variables on employee performance, and dominant influences.

Design/methodology/approach: Explain the research design, research methodology

Findings: The results of data processing show that there are six indicators of intrinsic motivation variables that are valid and reliable, namely activity, challenges at work, responsibility, self-potential ability, ability to learn new things, and achievement. For extrinsic motivation, there are four valid and reliable indicators, namely recognition, work facilities, relationships.

Practical implications: The result is that both intrinsic and extrinsic motivation have a significant effect on employee performance, with a positive relationship. The more intrinsic motivation employees have, the better they perform. Management can pay attention to factors such as activities, challenges in work, responsibilities, self-ability, ability to learn, and achievements.

Paper type: Research paper

Keywords: *Intrinsic motivation, extrinsic motivation and employee performance.*

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I. INTRODUCTION

Companies must use strategies to adapt to changes and win competition in an increasingly tight business world. Due to globalization, growing businesses are very competitive. (Istanti et al., 2020) In this case, human resources (HR) are a very important component for the success of businesses and their ability to survive in the current era of globalization. So, to achieve the company's vision and mission, human resource management (HRM) must be good and optimal. As stated by Mangkunegara, (2017) "HRM is planning, organizing, directing, coordinating, implementing and supervising the procurement, development, provision of services, integration, maintenance and management of human resources."

"HRM aims to support organizations by developing and implementing Human Resources (HR) strategies that are integrated with business strategies, contributing to developing a high-performance culture, which ensures that the organization has the talented and skilled resources it needs, creates positive working relationships between management and employees, and encourages the adoption of an ethical approach to people management (Hakim, 2021).

In the midst of limited employment opportunities, Indonesia's human resources will certainly face an increasing burden. This makes it difficult for companies in Indonesia to prepare their human resources who have sufficient abilities and achievements to compete with human workers from other countries. The current condition of Indonesia's human resources can be described as follows: "Work performance is the work results achieved by a person in carrying out the tasks assigned to him which are based on skill, experience and sincerity and time." (M. Hasibuan, 2017). The human resource development index shows that the condition of Indonesia's human resources is currently ranked below other ASEAN countries. The ranking is even lower than Vietnam, which has just

emerged from its downturn. However, along with the lagging behind in the quality of human resources, Indonesia is also faced with increasingly strong global competition. Therefore, the quality of human resources produced must be able to answer the challenges in the era of globalization.

Thus, companies in Indonesia must also have quality human resources. The need for human resources cannot be considered as a single component, it is a combination that produces synergy. This is due to the fact that a company is an interrelated system that functions to achieve its goals. Human resources (HR) are the part that is considered the most strategic of an organization. High-quality human resources have the ability to utilize other components to achieve system efficiency and effectiveness.

Currently, employees are considered assets or company capital rather than just resources. Employees can be defined as human resources (HR) who are ready and have the ability to produce unique, creative and innovative values using their powers of logic and intuition. Even though organizations use sophisticated technology and information, as well as adequate capital and materials, low-quality workers will find it difficult to achieve their goals.

Regional General Hospital RSUD ABC is in Simokerto, East Java City. The government hospital of choice for the people of East Java City, RSUD ABC continues to improve its facilities to realize its vision and mission as a hospital that excels in service and education in the city of East Java. Dr. Hospital ABC is also a Teaching Hospital, which is closely related to medical education.

Strong infrastructure and human resources (HR) for employees who deal directly and indirectly are needed to support the use of this technology with customers. For example, the ABC Oncology Center will be opened at ABC Hospital, Surabaya. The city hospital treated many cancer patients, which resulted in this new facility. At ABC, there has been an increase in cancer cases in the last two years. There were 492 cancer patients treated in 2021. The number of patients increased 30% every year to 642 people. This month there are also many cancer patients.

One important part of ABC Hospital Surabaya is human resources with high performance, which means employees can work better and more quickly to produce the best results. This means that employee performance must be managed well to increase company productivity so that the company can excel in business competition. To manage employee performance, ABC Hospital Surabaya can consider factors that can influence employee performance. Motivation is defined as "a psychological state" Swasto, (2017), but Mangkunegara, (2017) said that "Motivation is one of the factors that can influence performance". A certain motivation within a person that arises because of the drive to fulfill needs". This motivation can influence how well an employee performs their duties and has an impact on the company.

Motivation is a complex issue. This is because the needs and desires of each individual (in this case employees in the company), are very different from each other which can give rise to different behavior in each individual. So, in order to align the diverse interests and needs of each employee, companies must understand these things in order to improve employee work performance. Furthermore, the results are expected to be an effective driving force for employees in achieving the company goals that have been set.

Thus, it can be said that employee motivation greatly influences the success of the company, especially in terms of improving employee performance. In other words, if given the right work motivation, employees will feel very motivated to complete the tasks given to them as well as possible. This shows that it is necessary to evaluate employee performance in each work unit. In this research, it is suspected that motivation is a factor that influences the performance of employees at ABC Hospital Surabaya. According to Mangkunegara (2014), motivation is one of the factors that influences performance achievement. In this research, the motivation variable consists of two parts: intrinsic motivation and extrinsic motivation. These three variables: performance, intrinsic motivation, and extrinsic motivation: are latent variables that cannot be measured directly, so PLS is used to determine the relationship between them.

The aim of this research is to determine and analyze the partial and dominant influence of intrinsic motivation variables and variables on employee performance at ABC Hospital Surabaya. Based on the background described above, the researcher was interested in studying it in more depth so decided the title of this research was "The Influence of Intrinsic Motivation and Extrinsic Motivation on The Performance of Employees at ABC Hospital Surabaya"

A. Literature Review

1. Human Resource Management

AAAP Mangkunegara, (2017) states that "Human Resource Management (HRM) is a process of planning, organizing, directing, coordinating, implementing and supervising procurement. According to Dessler, (2015)"HRM is the process of acquiring, training, assessing and compensating employees and managing their work relationships, their health and safety and matters related to justice." HRM is an organization that must carry out human resource management to ensure that their knowledge, abilities and skills match the demands of their work.

2. Motivation

According to Hasibuan (2019), motivation comes from the employee's attitude towards the work situation in the company. According to AP Mangkunegara (2017), motivation is a condition or energy that moves employees who are directed towards achieving company goals. In addition, motivation is often interpreted as a driving factor in someone's behavior.

3. Intrinsic Motivation

Motivation that encourages someone to achieve that comes from within themselves is called intrinsic motivation.(Suhardi, 2018). Factors-factors that influence intrinsic factors, namely everything within an individual such as personality, attitudes, experiences, education, ideals, needs, hopes and interests.(Sutrisno, 2020). Indicators of intrinsic motivation are Activity, Interest in work, Challenge in work, Responsibility, Self-potential ability, Authority, Independence, Learning new things, Creativity, Achievement(Nawawi., 2014)Intrinsic motivation comes from the work done, either because it is enjoyable, fulfills a need, or allows achieving goals and because it provides good hope for the future.

4. Extrinsic Motivation

Extrinsic motivation is motivation that comes from outside oneself and influences a person's behavior in their life, which is known as the hygiene factor theory.(MSP Hasibuan, 2017) According to(Kaswan, 2019)"Extrinsic motivation is behavior that is formed for needs related to material things and social rewards that involve lower level needs." Indicator Extrinsic motivation includes:Awards, work facilities, company policies, co-worker relations, promotions, assessment processes, supervision, overall reform, salaries and bonuses.Extrinsic motivation is a source of work motivation from outside the worker as an individual, in the form of a condition that requires him to carry out work optimally. For example, being highly dedicated to work because of high wages/salaries, honorable positions/positions or having great power, praise, punishment and so on.

5. Performance

Performance is an abbreviation of "work energy kinetics", and "performance" is an abbreviation of the word "performance" in English.(Dessler, 2015)Performance can be defined as "Work performance, namely the comparison between work results and established standards"(Sutrisno, 2020)Performance can also be defined as the real behavior shown by each employee, such as work performance produced by employees in accordance with their role in the company. Performance Indicators(Robbins, Stephen, 2016), namely: Quantity of work, Quality of work and Timeliness.

6. The Relationship between Intrinsic Motivation and Employee Performance

According to Nawawi., (2014)"The more intrinsic motivation, the better employee performance. This means that companies really need employees who have high intrinsic motivation because it will have an impact on increasing employee performance, which will ultimately allow companies to achieve their goals.

7. The Relationship between Extrinsic Motivation and Employee Performance

"Extrinsic motivation is a work driver that comes from outside the worker as an individual in the form of a condition that requires him to carry out work optimally."(Nawawi., 2014)

B. Conceptual Framework

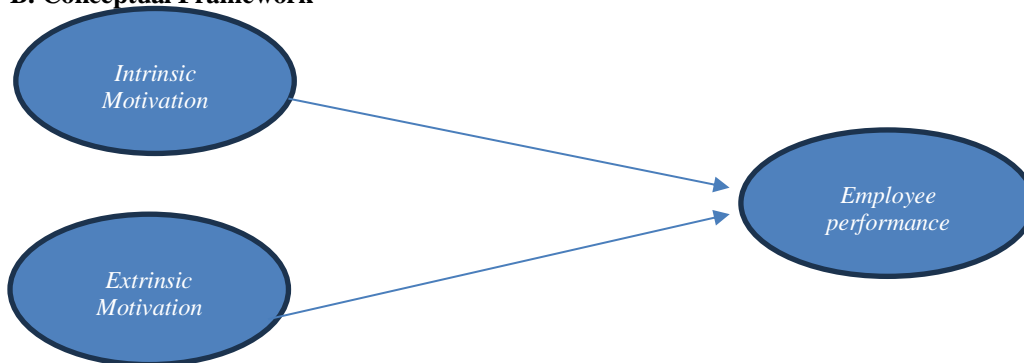


Figure 1 Research Model Design

Source: Researcher (2024)

Figure 1 explains that intrinsic motivation variables (X1) and extrinsic motivation variables (X2) have an influence on employee performance (Y). This means that if the employee's intrinsic motivation and extrinsic motivation are good, then the employee's performance will be good too. Likewise, if the employee's intrinsic and extrinsic motivation is not good, it will make the employee's performance less good.

II. METHODS

A. Types of research

The philosophy of positivism encourages quantitative methods, which are used to research certain populations or samples. Sampling was carried out randomly, and research instruments were used to collect data. Next, this method is used to test the established hypotheses. (Sugiyono, 2019b)

B. Data Type

The purpose of collecting data in research is to obtain information that can explain the research problem as a whole. Primary data and secondary data are the most common types of data used in research. (Sugiyono, 2017)

C. Data collection technique

This research collects data through filling out questionnaires. Questionnaires were distributed to respondents and researchers visited respondents directly. To compile this questionnaire, an evaluation measurement scale was used, which measures assessments based on the respondent's attitude towards one condition. Answer choices are described on a Likert scale. The number of points used is five points (Sugiyono., 2019).

D. Data analysis technique

This research uses PLS as data analysis to identify the relationship between motivation and HR performance. PLS works with the assumption of zero intercorrelation between residuals and variables, and "Partial Least Square (PLS) was developed by Wold as a general method for estimating model paths that use latent variables with many indicators" (Ghozali, 2016).

E. Population Determination Techniques, Sample Size, and Sampling Techniques

Population is a general area consisting of a group of people, events, or everything that has certain characteristics identified by researchers to study and then draw conclusions (Sugiyono., 2019). Population is the total number of analysis units whose characteristics will be predicted. This research involved all employees of ABC Hospital Surabaya, totaling 417 people. A small portion of the overall population carefully selected to become the population is called a sample (Sugiyono, 2019a)

The Slovin formula is a method used to determine the number of samples in a population. The formula is:

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

$$n = \frac{417}{1 + 417(0,05)^2}$$

$$= 204.05 \approx 205$$

III. RESULTS AND DISCUSSION

A. Results

1. Evaluation of the Measurement Model (Outer Model)

In this research, the conceptual framework was built by a reflective indicator model in the three measurement models. So in evaluating the model, the criteria used are convergent validity (loading, average variance extracted, and communalities), discriminant validity (cross loading), and reliability (composite reliability).

a. Early Models

The first step in evaluating PLS modeling is to verify that the indicators used are suitable for application. The initial PLS modeling results can be seen in Figure 2

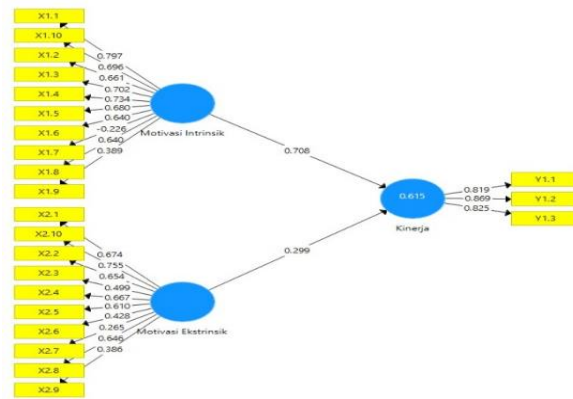


Figure 2 Initial PLS Modeling

Source: researcher (2024)

In evaluating measurement models, there is validity and reliability testing. In PLS modeling, the AVE value shows the convergent validity value. The minimum AVE value that must be met in the model is 0.5, which means that the latent variable can explain more than 50 percent of the variance of the indicators. The AVE values produced in this initial modeling are shown in the following table.

Table 1 AVE Initial Modeling

Variable	Average Variance Extracted(AVE)
Kiperformance	0.703
Extrinsic motivation_	0.334
Intrinsic motivation	0.407

Source: researcher (2024)

Table 1 shows that there are latent variables that have an AVE value of less than 0.5, namely the variables intrinsic motivation (0.407) and extrinsic motivation (0.334). This means that these two variables cannot explain more than 50 percent of the indicators. In this initial modeling, only the performance latent variable can meet discriminant validity with an AVE value of 0.703.

Table 2 Composite Reliability Initial Modeling

Variable	Composite Reliability
Kiperformance	0.876
Extrinsic Motivation_	0.824
Intrinsic Motivation	0.846

Source: researcher (2024)

Composite reliability shows reliability based on the correlation between indicators. Composite reliability has the same meaning as AVE, namely if the value is more than 0.7 then the latent variable can explain more than 50 percent of the variance of the indicators. Based on the composite reliability value of the initial modeling which can be seen in Table 2, exogenous variables (intrinsic motivation and extrinsic motivation) and endogenous

variables (performance) have values greater than 0.7. This shows that the three latent variables have good reliability.

b. Final Model

PaIn the initial modeling, convergent validity was not met when looking at the outer loading and AVE values, so re-modeling was needed by eliminating indicators one by one starting from the indicator with the smallest outer loading value until the minimum AVE and outer loading values were met. The final modeling results with the best AVE and outer loading values are shown in the following image.

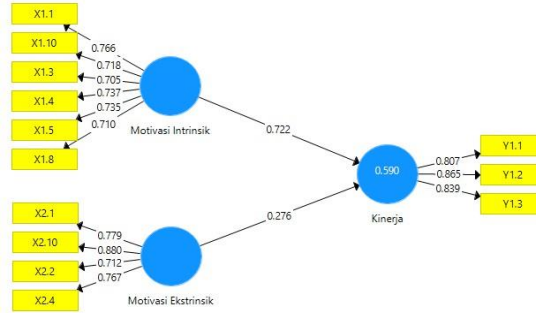


Figure 3 PemFinal PLS model

Source: researcher (2024)

In the remodelling of indicators that were removed, they included indicators X1.2 (Interest in work), X1.6 (Authority), X1.7 (Independence) and X1.9 (Creativity) for the intrinsic motivation variable, and indicator (Company policy), X2.5 (Promotion), X2.6 (Appraisal process), X2.7 (Supervision), X2.8 (Overall reform), The validity and reliability values after these indicators are removed are as follows.

Table 3 Ave Final Modeling Value

Variable	Average Variance Extracted(AVE)
<i>Kiperformance</i>	0.701
<i>Extrinsic motivation_</i>	0.619
<i>Intrinsic motivation</i>	0.531

Source: researcher (2024)

Table 3 shows that all latent variables of intrinsic motivation, extrinsic motivation and performance have an AVE value of more than 0.5, so it can be said that in this final modeling all the indicators used have met convergent validity. This means that the latent variable can explain 50 percent of the variance of the indicators used.

2. Structural Model Evaluation (Inner Model)

The next step in PLS modeling is evaluating the structural model (inner model), namely evaluating the relationship between latent variables. The stages carried out in evaluating the inner model include evaluating the R-square value, evaluating the F-square value, evaluating the Q2 value, and checking the significance of the relationship between variables.

a. R-Square

R-square shows how much of the variability of the endogenous variable is explained by the variability of the exogenous variable. R2 values of 0.75, 0.5 or 0.25 respectively indicate the goodness of the structural model is strong, medium or weak.

Table 4 R-Square PLS Modeling

	<i>R-Square</i>
<i>Kiperformance</i>	<i>0.590</i>

Source: researcher (2024)

The R-square produced in this modeling is 0.590 which can be seen in Table 4. This figure shows that the resulting structural model is quite feasible. This figure also means that 59 percent of the variability in performance variables can be explained by the variability in intrinsic motivation and extrinsic motivation variables, while the other 41 percent is explained by other variables not included in this research model.

B. Discussion

1. Intrinsic Motivation

a. Activity

Intrinsic Motivation is the motivation to enjoy an activity purely for the reason of the activity itself. When employees are intrinsically motivated, they will perform activities regularly (Sleimi & Davut, 2015) with a relatively high level of interest and enjoyment that the activity provides. Employees will voluntarily keep themselves busy completing these tasks every day. As an example At ABC Hospital, Surabaya, an admission is used to arranging consultation schedules and communicating with patients every day. They enjoy the work and make it an activity they do every day.

b. Challenges to work

Challenges at work can also create encouragement or motivation to do the job well (Anwar, 2019). Challenges can arise when employees feel that they are not burdened to complete the work but instead have a desire to overcome any difficulties in the work and complete the work according to the target. This creates a sense of challenge to complete work perfectly and can motivate someone to work. Rs ABC Surabaya, the marketing team, for example, will feel challenged to be able to introduce services to some people, including things that are commonplace. In achieving this target, the marketing team innovates every activity carried out so that the public becomes more familiar with and knows about ABC Hospital Surabaya.

c. Responsibility

Responsibility is an employee's obligation to carry out their work as best as possible (Anwar, 2019). A sense of responsibility motivates employees so that they feel obliged to do their own work until the work is completed (Sleimi & Davut, 2015). Nurses have a responsibility to serve patients who undertake the program. In implementing this program, 1 PIC nurse is responsible for 1 program patient. So that in carrying out their duties responsibly, PIC nurses will feel happy to serve their own patients until the patient has completed the program, without passing on their duties to other PIC nurses.

d. Self Potential Ability

An employee also wants in his job to be able to always learn or do new things (Anwar, 2019). In this case, employees will feel happy that their abilities and skills can be of benefit to others. Admissions officers, cashiers and nurses are the types of employees who have good presentation or communication skills with other people (patients). Their ability to speak fluently and clearly to patients can create motivation for them in carrying out their work, especially if the patient feels satisfied and happy with every explanation they give.

e. Learn New Things

An employee also wants in his job to be able to always learn or do new things (Sleimi & Davut, 2015). In between routine work, doing new things can make employees more enthusiastic about completing their tasks. In the world of health, over a certain period of time there will always be new technologies that can be applied to do work better, more effectively and efficiently. At ABC Hospital Surabaya new technologies are also used in providing services to patients. This new technology is directly applicable to officers laboratory. Learning and applying this new technology makes laboratory staff feel that the work they do is more enjoyable and less monotonous. Apart from laboratory staff, employees in other departments such as admission, nurses and marketing are also obliged to learn the new technologies used so that they can explain them to patients. So it can be said that the presence of new things at work can motivate employees from within to do their work better.

f. Performance

Employees have a desire to be able to make important contributions to the work team and the company. Good work achievement in this case called achievement is one of the things that motivates employees in their work. Employees will be satisfied when they get rewards when doing work according to their targets (Sleimi & Davut, 2015). For example, the marketing team will feel satisfied if people who take part in the event being held want to come to ABC Hospital Surabaya to get services. The laboratory team, nurses and clinicians will feel satisfied when patients are successful in carrying out the program. These things are achievements which, if appreciated, will motivate employees to always try their best in doing their work.

2. Extrinsic Motivation**a. Confession**

For employees, praise received from superiors for doing a good job is something that can motivate (Sleimi & Davut, 2015). In other words, employees receive recognition from superiors for the work they do. This can be done by superiors, for example by giving praise or appreciation for the performance of outstanding employees in front of other employees. At ABC Hospital Surabaya, recognition of good employee performance is manifested in the announcement of the "Best Employee" of the year at an internal event held every year, where there are special rewards for these employees. This can motivate the employee, as well as other employees, to do their work well.

b. Work Facilities

Facilities Workplaces are facilities and infrastructure that support employees in carrying out their work activities. Companies should provide complete work facilities and support operational activities that motivate employees to work better. These work facilities can include adequate building conditions, comfort and cleanliness in the workplace, and other work support facilities that are sufficient to support work (Anwar, 2019). Management always pays attention to these things, so that employees feel comfortable doing their work. A clean and tidy workplace and supporting facilities such as uniforms, computers, internet network, electricity, and air conditioning are always strived for as well as the best for employee comfort. In addition, routine maintenance and calibration are carried out for clinical and laboratory equipment so that operational activities can run well and smoothly.

c. Coworker Relations

Dalam carrying out operational activities cannot be separated from interaction between employees which requires good teamwork. Good relationships with co-workers, such as respecting co-workers' opinions, always fostering harmonious relationships with co-workers, and minimal conflict between co-workers can be a motivation for employees to do their work well (Anwar, 2019). In order to maintain good relations between employees, ABC Hospital Surabaya provides a place to coordinate via the WhatsApp group. Apart from that, the management also provides consultation sessions for employees to convey aspirations, thoughts, expressions and freedom to create openness and good relations between employees.

d. Wages

Salary is an important element that has a big influence on employee motivation. Salary is wages paid over a fixed period of time in the form of money based on a certain time as a reward for carrying out work. Employees will be motivated to do a good job when they feel that the salary they receive is commensurate with the work they do (Sleimi & Davut, 2015). So management must be careful in determining the amount of salary that each employee can receive. In determining the amount of salary for each employee, ABC Hospital Surabaya has many considerations ranging from position, job responsibilities, education, and work loyalty.

3. Performance Employees**a. Quantity**

Work quantity is defined as the amount that must be completed and achieved in a certain period. This can be seen from the results of employee work in using a certain time and the speed in completing their tasks and responsibilities. For example, the quantity of work for PIC nurses is the number of program patients served in one month. Another example is the number of marketing activities carried out in 1 month.

b. Quality

Work quality is the quality that must be produced in work. Work quality is also defined as a result that can be measured by the effectiveness and efficiency of work carried out by employees. One example of the quality of work ABC Hospital Surabaya is the work. The cashier's work is considered quality if the cashier can calculate the amount to be paid by each patient correctly and receive the payment in the correct amount.

c. Timeliness

Timeliness is the accuracy of work within a predetermined time, namely the completion of a task in accordance with a predetermined or previously agreed time. Punctuality in doing work. for example, the timeliness of program patient reports, from nurses to doctors, or monthly reports from the data and finance department to management.

4. The effect of Intrinsic Motivation and Extrinsic Motivation on Performance employee

a. Intrinsic Motivation

Intrinsic motivation is a driving force that arises from within an employee which makes employees work well in order to achieve maximum work results. Based on the results of data processing, it shows that intrinsic motivation influences the performance produced by these employees. These results show a figure of 0.722 which is positive, so it can be interpreted that the higher the intrinsic motivation that an employee has, the higher the employee's performance will be. This means that employees with high intrinsic motivation are really needed by the company to be able to achieve the company's goals. Therefore, based on these results, management needs to pay attention to the intrinsic motivation of its employees, especially the 6 indicators previously explained. Management can review the policies that have been implemented in the company, or carry out other activities so that employees' intrinsic motivation always increases.

b. Extrinsic Motivation

Extrinsic motivation is a work driver that comes from outside the worker who can encourage employees to carry out work optimally. Extrinsic motivation also has a significant effect on employee performance with a value of 0.276. This value also shows a positive relationship between extrinsic motivation and employee performance, which means that the higher the extrinsic motivation an employee has, the better the employee's performance will be. BeBased on these results, it can be said that if the company pays adequate attention to working conditions including recognition, work facilities, co-worker relations and employee salaries, it will have an impact on maximum employee performance results. This will help the company to make its employees good employees and work optimally, as well as making employees have high loyalty, thereby reducing turnover and absenteeism in the company.

In the final modeling, the composite reliability value for the three constructs (intrinsic motivation, extrinsic motivation, and performance) is greater than 0.7 as shown in Table 5. This value can be interpreted as meaning that the three construct variables are reliable, that is, the indicators can be used to measure latent variables consistently.

Table 5 Outer Loading

	<i>T Statistics</i>	<i>P Values</i>
<i>X1.1 <- Intrinsic Motivation</i>	<i>11,622</i>	<i>0,000</i>
<i>X1.3 <- Intrinsic Motivation</i>	<i>8,265</i>	<i>0,000</i>
<i>X1.4 <- Intrinsic Motivation</i>	<i>8,990</i>	<i>0,000</i>
<i>X1.5 <- Intrinsic Motivation</i>	<i>8,269</i>	<i>0,000</i>
<i>X1.8 <- Intrinsic Motivation</i>	<i>6,232</i>	<i>0,000</i>
<i>X1.10 <- Intrinsic Motivation</i>	<i>9,160</i>	<i>0,000</i>
<i>X2.1 <- Extrinsic Motivation_</i>	<i>3,033</i>	<i>0.003</i>
<i>X2.2 <- Extrinsic Motivation_</i>	<i>2,659</i>	<i>0.008</i>
<i>X2.4 <- Extrinsic Motivation_</i>	<i>2,901</i>	<i>0.004</i>

<i>X2.10 <- Extrinsic Motivation_</i>	<i>4,151</i>	<i>0,000</i>
<i>Y1.1 <- Performance</i>	<i>10,771</i>	<i>0,000</i>
<i>Y1.2 <- Performance</i>	<i>21,095</i>	<i>0,000</i>
<i>Y1.3 <- Performance</i>	<i>16,569</i>	<i>0,000</i>

Source: researcher (2024)

After evaluating validity and reliability, then testing the significance of the measurement model as seen from the t-statistic value of the loading results from the measurement model. The condition for an indicator to be said to be significant in measuring the latent variable is to have a t-statistic value greater than 1.96 (2-tailed) or a p-value less than 0.05 at a significance level of 5 percent. The t-statistic value and p-value are obtained from the bootstrapping process. All indicators for the three variables have a t-statistic value greater than 1.96 or it can also be seen from the p-value which is less than 0.05. This means that six indicators of intrinsic motivation, three indicators of extrinsic motivation and three indicators of performance are statistically significant in measuring each latent variable.

IV. CONCLUSION

Based on the results of research that has been carried out by collecting and analyzing data, the following conclusions can be drawn:

1. Intrinsic motivation and extrinsic motivation have a significant effect on employee performance with a positive relationship. The higher the intrinsic and extrinsic motivation that employees have, the higher the resulting employee performance will be.
2. increasing employee intrinsic motivation, management can pay attention to activity factors, challenges in work, responsibility, personal potential abilities, learning new things, and achievement. Meanwhile, in increasing employee extrinsic motivation, management can pay attention to recognition factors, work facilities, co-worker relationships and employee salaries.

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Analysis Employee Expenditure, Goods and Services Expenditure, Capital Expenditure on the Financial Performance of Regional Apparatus Organizations in Supporting Sustainable Development of the Bangkalan Regency Government

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ABSTRACT

Purpose: This study was conducted to test and analyse the effect of Personnel Expenditure, Goods and Services Expenditure, Capital Expenditure on the Financial Performance of Regional Apparatus Organisations in Supporting Sustainable Development of the Bangkalan Regency Government.

Methodology: This research uses quantitative methods using 52 populations in 2021-2023 with a total of 156 samples.

Findings: The results of testing and analysis carried out, significant and positive results were obtained on the Employee Expenditure, Goods and Services Expenditure variables, while the Capital Expenditure variable obtained significant results with a negative value, which means that the higher the realisation of Capital, the lower the Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021 - 2023.

Paper Type: Research paper

Keywords: *Employee Expenditure, Goods and Services Expenditure, Capital Expenditure, Financial Performance, Regional Apparatus Organisation, Sustainable Development, Bangkalan Regency Government.*

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I. INTRODUCTION

In the implementation of regional autonomy, broad, complete and unanimous authority consisting of planning, implementation, supervision, control and evaluation in all aspects of government, must be accountable to the authoriser and the community. The implementation of regional autonomy is marked by decentralisation, which is indicated by providing broader, more tangible and responsible authority, especially in regulating, utilising and exploring potential sources in the region.

An organisation is formed for a specific purpose. This target is in the form of a certain output, it can be the realisation of a certain item with a specified quantity and quality, it can also be the realisation of a desired situation that is better than what already exists, it can also be a better service. The level of achievement of this organisational target is more commonly referred to as performance. To achieve maximum targets, this performance needs to be assessed or evaluated periodically before the end of the predetermined period.

Measurement of local government financial performance can be seen from the ability to absorb the budget. Assessing the performance of a region's financial management is by looking at its budget absorption. The occurrence of budget absorption rates can determine a region's performance / ability to implement and be responsible for each programme that has been determined (Fajar & Arfan, 2017).

With the good financial performance of the Regional Apparatus Organisation, which is marked by effective budget absorption, regional development activities by the Bangkalan Regency Government have been running well. Development is the obligation of the government as a mandate from the people. The development aims to create security, order and prosperity in society. In the development process, there are several approaches that can

be used by the government. Regional development is one of the development concepts that emphasises certain areas with certain similarities. Regional development is carried out to achieve regional development goals that include aspects of growth, equity and sustainability that have a location dimension in space and are related to the socio-economic aspects of the region (Anwar, 2005). Sustainable regional development is key in realising a more prosperous, advanced and independent society. Development as a sustainable process must be able to concretely improve equitable welfare, strengthen independence and advance civilisation.

Based on the description above, it can be stated that the analysis of budget absorption is a very important thing to do because it illustrates the government's ability to achieve its performance targets. In this regard, it is necessary to analyse budget absorption, especially in Bangkalan Regency.

A. Theoretical Foundations

1. Employee Expenditure

As stated in the Technical Bulletin on the Presentation and Disclosure of Government Expenditure No. 04 issued by the Government Accounting Standards Committee (KSAP) published on 29 December 2006, to provide a common understanding both in budget preparation and reporting, the types of expenditure in reporting will be described, namely operating expenditure, capital expenditure, unexpected expenditure and transfers.

Operating expenditure consists of personnel expenditure (salaries, allowances and honorarium/wages), goods expenditure, interest expenditure, subsidy expenditure, grant expenditure, social assistance. Capital expenditure consists of land expenditure, buildings and structures expenditure, roads, irrigation and buildings expenditure, and other fixed assets expenditure. Personnel expenditure in the operating expenditure of the Budget Realisation Report represents compensation in the form of money or goods such as salaries, allowances and honorarium/wages incurred by the local government for local government activities.

2. Goods and Services Expenditure

According to Presidential Regulation Number 16 of 2018 concerning Procurement of Goods and Services means that the procurement of goods and services is the activity of procuring goods / services by ministries / institutions / regional apparatus financed by the APBN / APBD whose process starts from identifying needs, up to the handover of work results.

Based on Presidential Regulation of the Republic of Indonesia Number 4 of 2015 Government Goods and Services Expenditure, hereinafter referred to as Goods / Services Expenditure, is an activity to obtain goods and services by Ministries / Institutions / Regional Work Units / Institutions whose process starts from planning needs until the completion of all activities to obtain goods / services. According to Suganda (1994: 66) in Romus & Museliza (2012:87) Shopping is all activities and efforts to increase and fulfil the need for goods and services based on applicable regulations by creating something that did not exist before.

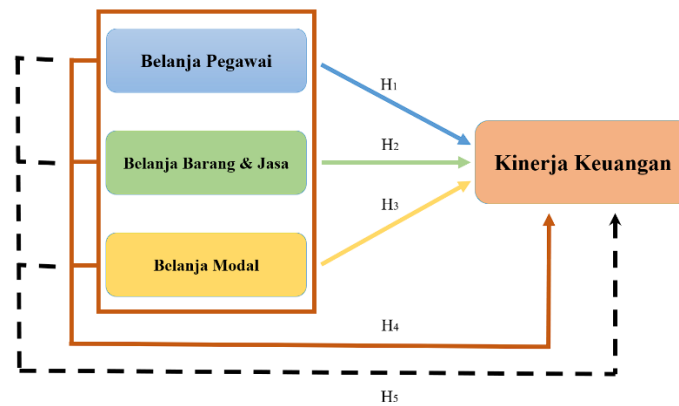
3. Capital Expenditure

According to Erlina et al. (2015:31) Capital Expenditure is budget expenditure for the acquisition of fixed assets and other assets that provide benefits for more than one accounting period. Similarly, according to Mursyidi (2018:305) Capital Expenditure is budget expenditure for the acquisition of fixed assets and other assets that benefit more than one accounting period.

Factors affecting Capital Expenditure based on PP No. 58 of 2005 article 16 paragraph (1) concerning Regional Financial Management, "APBD is prepared in accordance with the administration of government and the ability of regional income." This means that in each APBD preparation, if the local government will allocate Capital Expenditure, the factors that must be considered are regional needs and the amount of regional income.

B. Conceptual Framework

The conceptual framework guides researchers to systematically explain the theory used in the study. This research has a conceptual framework which will be explained in the figure below :



Gambar 1 Conceptual Framework

II. METHOD

This research uses quantitative methods. The population in this study is the Budget Realisation Report of 52 Regional Apparatus Organisations in the Bangkalan Regency Government. The sampling technique used is the Purposive Sampling technique, meaning that the sample used in this study is a sample with consideration or choosing certain criteria and objectives for the sample under study (Sugiyono, 2017). The sample criteria in this study include the Budget Realisation Reports of 52 Regional Apparatus Organisations in the Bangkalan Regency Government for the 2021 - 2023 fiscal year. The selection of the 2021 - 2023 fiscal year period is because in the 2021 - 2023 fiscal year the Bangkalan Regency Government.

The data collection technique used in this research is the documentation method. Documentation according to Sugiyono (2017) Documentation is a method used to obtain data and information in the form of books, archives, documents, written figures and images in the form of reports and information that can support research. Documentation is used to collect data and then reviewed. The documentation used in this study includes the Budget Realisation Reports of 52 Regional Apparatus Organisations in the Bangkalan Regency Government for the 2021 - 2023 fiscal year, which can be accessed through the Regional Government Information System (SIPD) application on the website: <https://sipd.kemendagri.go.id/>.

The analysis method used in this research is a quantitative data analysis method using multiple linear regression methods. Multiple linear regression analysis is carried out to determine the direction and how much influence the independent variable has on the dependent variable (Ghozali, 2018). The data analysis methods that will be used are Descriptive Statistical Test, Classical Assumption Test, Multiple Linear Regression Model and Hypothesis Test.

III. RESULT AND DISCUSSION

A. Results

1. Descriptive Analysis

Table 1 Results of Descriptive Analysis

<i>Descriptive Statistics</i>					
	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Financial Performance</i>	156	67.40	130.19	95.9101	7.02831
<i>Employee Expenditure</i>	156	81.68	126.23	97.5535	4.23703

<i>Goods and Services Expenditure</i>	156	37.96	145.78	93.6659	10.52190
<i>Capital Expenditure</i>	156	.00	1320.13	87.1653	111.73446
<i>Valid N (listwise)</i>	156				

The results of descriptive statistics show that the minimum value of Financial Performance from 2021 to 2023 is 67.40 at the Public Works and Spatial Planning Office in 2022, while the maximum value is 130.19 at the Social Service in 2021. These results indicate that the amount of Financial Performance sampled in this study ranges from 67.40 to 130.19 with an average value of 95.9101 at a standard deviation of 7.02831. The average value is greater than the standard deviation, namely $95.9101 > 7.02831$. This means that the Financial Performance variable has a smaller distribution than the average value, so that the data deviation on the Financial Performance variable can be said to be good.

The results of descriptive statistics show that the minimum value of Employee Expenditure from 2021 to 2023 is 81.68 in Blega District in 2022, while the maximum value is 126.23 at the Regional Financial and Asset Management Agency in 2022. These results indicate that the amount of employee expenditure sampled in this study ranges from 81.68 to 126.23 with an average value of 97.5535 at a standard deviation of 4.23703. The average value is greater than the standard deviation, namely $97.5535 > 4.23703$. This means that the Employee Expenditure variable has a smaller distribution than the average value, so that the data deviation on the Employee Expenditure variable can be said to be good.

Furthermore, the results of descriptive statistics show that the minimum value of Goods and Services Expenditure in 2021 to 2023 is 37.96 at the Public Works and Spatial Planning Office in 2022, while the maximum value is 145.78 at the Livestock Service Office in 2022. These results indicate that the amount of Goods and Services Expenditure sampled in this study ranges from 37.96 to 145.78 with an average value of 93.6659 at a standard deviation of 10.52190. The average value is greater than the standard deviation, namely $93.6659 > 10.52190$. This means that the Goods and Services Expenditure variable has a smaller distribution than the average value, so that the data deviation on the Goods and Services Expenditure variable can be said to be good.

The minimum value of Capital Expenditure in 2021 to 2023 is 0.00 in 31 Regional Apparatus Organisations. Then the maximum value is 1320.13 at the National and Political Unity Agency in 2022. These results indicate that the amount of capital expenditure sampled in this study ranges from 0.00 to 1320.13 with an average value of 87.1653 at a standard deviation of 111.73446. The average value is smaller than the standard deviation, namely $87.1653 < 111.73446$. This means that the Capital Expenditure variable has a distribution greater than the average value, the Standard Deviation which is greater than the mean indicates that the data used in the Capital Expenditure variable has a large data distribution. This shows that the capital expenditure data in this study contains some outliers (data that is too extreme)..

2. Classic Assumption Testing

a. Normality Test

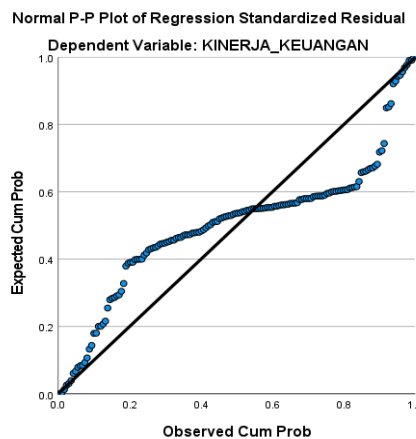


Figure 2. Data Normality Test of Normal Probability Plots Method

From the graph above, it is known that the P-Plot graph has points around the diagonal line and is straight on the diagonal line. So the data in this study shows a normally distributed regression form and fulfils the requirements of the normality assumption.

b. Uji Multicoloniniaritis

Table 2. Multicollinearity Test Results

<i>Coefficients^a</i>		<i>Collinearity Statistics</i>	
<i>Model</i>		<i>Tolerance</i>	<i>VIF</i>
<i>1</i>	<i>(Constant)</i>		
	<i>Employee Expenditure</i>	<i>.989</i>	<i>1.011</i>
	<i>Goods and Services Expenditure</i>	<i>.989</i>	<i>1.011</i>
	<i>Capital Expenditure</i>	<i>1.000</i>	<i>1.000</i>

a. Dependent Variable: Financial Performance

From the table above, it is known from the Multicollinearity test results that this study has a tolerance value of each variable greater than 0.10 (Tolerance ≥ 0.10), where the Tolerance value on the Employee Expenditure variable is 0.989, Goods and Services Expenditure is 0.989, Capital Expenditure is 1.000.

The VIF value shows that there is no variable value greater than 10 (VIF ≤ 10). From the results of the tolerance and VIF values, it can be concluded that there is no multicollinearity between the independent variables in the regression model in this study.

c. Heteroscedasticity Test

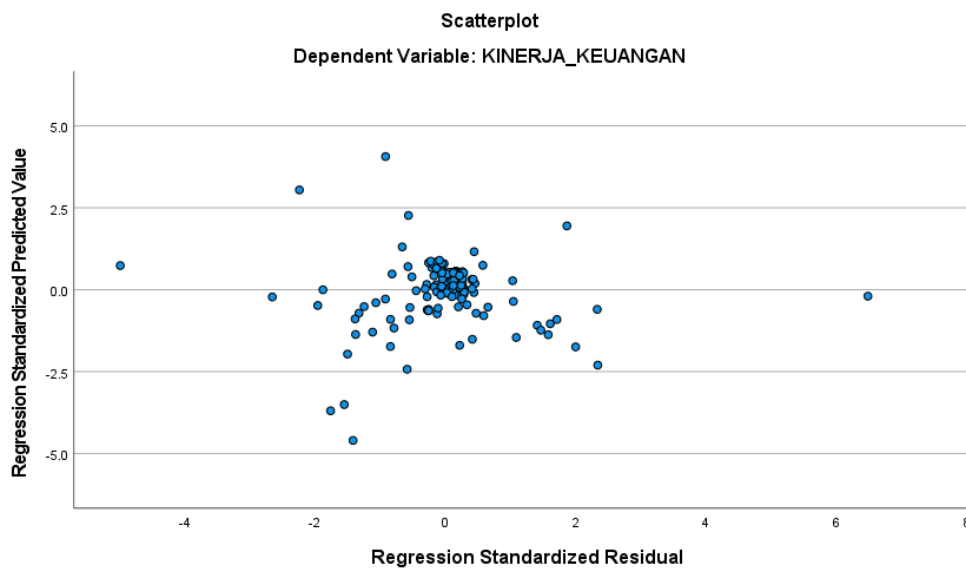


Figure 3. Heteroscedasticity Test Results

Based on the picture above, it can be seen that the points on the scatterplot graph spread above and below the number 0 on the Y axis and do not form a certain pattern. So it can be seen that this study does not experience heteroscedasticity problems.

d. Autocorrelation Test

Table 3 Autocorrelation Test Results

<i>Model Summary^b</i>	
<i>Model</i>	<i>Durbin-Watson</i>
<i>1</i>	<i>2.116</i>

a. Predictors: (Constant), Capital Expenditure, Goods and Services Expenditure, Employee Expenditure

b. Dependent Variable: Financial Performance

Based on the table above, it shows that the Durbin Watson value is 2.116. then the value is compared with the table value using a significance value of 5% (0.05) with a total sample (n) of 156 samples, and the independent variable (k) consists of 3 variables. So that the Durbin Watson value is obtained $dL = 1.6992$ and $du = 1.7776$. From this value, it is known that the DW value lies between du and $4-du$ or $du < DW < 4-du$, namely $1.7776 < 2.116 < 2.2224$. according to the applicable criteria in decision making with the Durbin Watson test, it can be concluded that there is no autocorrelation in the regression model.

3. Multiple Linear Regression Test

Table 4 Table of Multiple Linear Regression Test Results

<i>Coefficients^a</i>					
		<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	
<i>Model</i>		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>
<i>1</i>	<i>(Constant)</i>	<i>30.397</i>	<i>10.444</i>		<i>2.910</i>
	<i>Employee Expenditure</i>	<i>.336</i>	<i>.103</i>	<i>.203</i>	<i>3.253</i>
	<i>Goods and Services Expenditure</i>	<i>.363</i>	<i>.042</i>	<i>.543</i>	<i>8.712</i>
	<i>Capital Expenditure</i>	<i>-.015</i>	<i>.004</i>	<i>-.235</i>	<i>-3.796</i>

a. Dependent Variable: Financial Performance

Based on the multiple linear regression calculations shown in the figure above, the regression line equation is as follows:

$$Y = 30.397 + 0.336 \text{ Employee Expenditure} + 0.363 \text{ Shopping for Goods and Services} + -0.115 \text{ Capital Expenditure} + e$$

The multiple linear regression equation can be explained as follows:

- 1) The constant of 30.397 explains that if all independent variables are constant or equal to zero, then the level of Financial Performance is 30.397.

- 2) The Employee Expenditure variable (X1) obtained a coefficient value of 0.336 which indicates that if the Employee Expenditure variable increases by 1 unit, then the Financial Performance will increase by 0.336 units with the assumption that other independent variables are constant.
- 3) The Goods and Services Expenditure variable (X2) obtained a coefficient value of 0.363 which indicates that if the Goods and Services Expenditure variable increases by 1 unit, then the Financial Performance will increase by 0.363 units with the assumption that the other independent variables are constant.
- 4) The Capital Expenditure variable (X3) obtained a coefficient value of -0.115 which indicates that if the Capital Expenditure variable increases by 1 unit, then the Financial Performance will decrease by 0.115 units, assuming that the other independent variables are constant.

4. Hypothesis Test

a. Partial Test (Uji t)

Table 5 t-Test Results (Partial)

<i>Coefficients^a</i>						
		<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>		
	<i>Model</i>	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
<i>1</i>	<i>(Constant)</i>	<i>30.397</i>	<i>10.444</i>		<i>2.910</i>	<i>.004</i>
	<i>Employee Expenditure</i>	<i>.336</i>	<i>.103</i>	<i>.203</i>	<i>3.253</i>	<i>.001</i>
	<i>Goods and Services Expenditure</i>	<i>.363</i>	<i>.042</i>	<i>.543</i>	<i>8.712</i>	<i>.000</i>
	<i>Capital Expenditure</i>	<i>-.015</i>	<i>.004</i>	<i>-.235</i>	<i>-3.796</i>	<i>.000</i>

a. Dependent Variable: Financial Performance

b. Simultaneous Test (Test F)

Table 6 Simultaneous Test Results (Test F)

<i>ANOVA^a</i>						
	<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>1</i>	<i>Regression</i>	<i>3183.213</i>	<i>3</i>	<i>1061.071</i>	<i>36.054</i>	<i>.000^b</i>
	<i>Residual</i>	<i>4473.351</i>	<i>152</i>	<i>29.430</i>		
	<i>Total</i>	<i>7656.564</i>	<i>155</i>			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Capital Expenditure, Goods and Services Expenditure, Employee Expenditure

c. Dominant Test (Uji B)

Table 7 Dominant Test Results (B)

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	30.397	10.444		2.910	.004
	Employee Expenditure	.336	.103	.203	3.253	.001
	Goods and Services Expenditure	.363	.042	.543	8.712	.000
	Capital Expenditure	-.015	.004	-.235	-3.796	.000

a. Dependent Variable: Financial Performance

d. Coefficient of Determination (R²)

Tabel 8 Hasil Uji Koefisien Determinasi (R²)

Model Summary ^b		
Model	R	R Square
1	.645 ^a	.416

a. Predictors: (Constant), Capital Expenditure, Goods and Services Expenditure, Employee Expenditure

b. Dependent Variable: Financial Performance

Based on the table above, the R2 value is 0.416. This shows that the Financial Performance of Regional Apparatus Organisations is influenced by Personnel Expenditure, Goods and Services Expenditure, and Capital Expenditure by 41.6% while the remaining 58.4% is influenced by other factors outside this study.

B. Discussion

1. Testing the effect of Employee Expenditure on Financial Performance

H1: Employee Expenditure has a Significant Positive Effect on the Financial Performance of Regional Apparatus Organisations.

Based on the table above, the multiple linear regression test results obtained a regression coefficient value of 0.336. The Employee Expenditure variable has a t count of 3.253 with a significance of 0.001. The significance value is smaller than 0.05, indicating that the Employee Expenditure variable has a significant effect on the Financial Performance of the 52 OPDs in the Bangkalan Regency Government in 2021 - 2023, so that the first hypothesis is accepted.

2. Testing the effect of Goods and Services Expenditure on Financial Performance

H2: Goods and Services Expenditure has a Significant Positive Effect on the Financial Performance of Regional Apparatus Organisations.

Based on the table above, the multiple linear regression test results obtained a regression coefficient value of 0.363. The Goods and Services Expenditure variable has a t count of 8.712 with a significance of <0.001. The

significance value is smaller than 0.05, indicating that the Goods and Services Expenditure variable has a significant effect on the Financial Performance of the 52 OPDs in the Bangkalan Regency Government in 2021 - 2023, so the second hypothesis is accepted.

3. Testing the effect of Goods and Services Expenditure on Financial Performance

H3: Capital Expenditure has a Significant Positive Effect on the Financial Performance of Regional Apparatus Organisations.

Based on the table above, the multiple linear regression test results obtained a regression coefficient value of -0.015. The capital expenditure variable has a t count of -3.796 with a significance of <0.001. The significance value is smaller than 0.05, indicating that the Capital Expenditure variable has a significant effect on the Financial Performance of the 52 OPDs in the Bangkalan Regency Government in 2021 - 2023, so the third hypothesis is rejected.

4. Testing of Employee Expenditure, Goods and Services, and Capital Expenditure Simultaneously Has a Significant Positive Effect on Financial Performance

H4: Employee Expenditure, Goods and Services, and Capital Expenditure Simultaneously Have a Significant Positive Effect on the Financial Performance of Regional Apparatus Organisations.

Based on the table above, it can be seen from the calculated F value, which is 36,054. While the resulting significance value is <0.001 which is smaller than 0.05. Thus it can be concluded that this multiple regression model is feasible to use, and the independent variables which include Employee Expenditure, Goods and Services, and Capital Expenditure have a simultaneous influence on the Financial Performance variable in 52 OPDs in the Bangkalan Regency Government in 2021 - 2023, so that the fourth hypothesis is accepted.

5. Testing among the variables of Employee Expenditure, Goods and Services Expenditure, and Capital Expenditure which are dominant in influencing Financial Performance

H5: Among the variables of Employee Expenditure, Goods and Services Expenditure, and Capital Expenditure, the dominant effect on the Financial Performance of Regional Apparatus Organisations of the Bangkalan Regency Government is Goods and Services Expenditure.

From the table above, it shows that the Employee Expenditure variable has a beta coefficient of 0.333. The Goods and Services Expenditure variable has a beta coefficient of 0.363. And the Capital Expenditure variable has a beta coefficient of -0.015. This shows that the Goods and Services Expenditure variable has the largest beta coefficient among the other independent variables, which means that the Goods and Services Expenditure variable is the most dominant variable affecting the Financial Performance of the Bangkalan Regency Government Regional Apparatus Organisation so that the fifth hypothesis is accepted.

IV. CONCLUSION

Based on the data that has been collected and tests that have been carried out using multiple linear regression methods, the following conclusions can be drawn:

1. From the results of testing the research hypothesis, it shows that the Employee Expenditure variable has a positive effect on Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021 - 2023. This means that the higher the realisation of employee expenditure, the higher the financial performance of the 52 OPDs in the Bangkalan Regency Government in 2021-2023. This conclusion is evidenced by the results of the multiple linear regression test obtained a regression coefficient value of 0.336. The Employee Expenditure variable has a t count of 3.253 with a significance of 0.001. The significance value is less than 0.05, indicating that the Employee Expenditure variable has a significant effect on Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021-2023, so that the first hypothesis (H1) is accepted.
2. From the results of testing the research hypothesis, it shows that the Goods and Services Expenditure variable has a positive effect on Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021 - 2023. This means that the higher the realisation of Goods and Services Expenditure, the higher the Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021 - 2023. This conclusion is evidenced by the results of the multiple linear regression test obtained a regression coefficient value of 0.363. The Goods and Services Expenditure variable has a t count of 8.712 with a significance of <0.001. The significance value is smaller than 0.05, indicating that the Goods and Services Expenditure variable has a significant effect on the Financial Performance of the 52 OPDs in the Bangkalan Regency Government in 2021-2023, so the second hypothesis (H2) is accepted.

3. From the results of testing the research hypothesis, it shows that the Capital Expenditure variable has a negative effect on Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021 - 2023. This means that the higher the capital realisation, the lower the financial performance of the 52 OPDs in the Bangkalan Regency Government in 2021-2023. This conclusion is evidenced by the results of the multiple linear regression test obtained a regression coefficient value of -0.015. The Capital Expenditure variable has a t count of -3.796 with a significance of <0.001. The significance value is smaller than 0.05, indicating that the Capital Expenditure variable has a significant effect on Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021-2023, so the third hypothesis (H3) is rejected.
4. From the results of testing the research hypothesis, it shows that the variables of Employee Expenditure, Goods and Services, and Capital Expenditure Simultaneously have a Positive Effect on Financial Performance at 52 OPDs in the Bangkalan Regency Government in 2021 - 2023. This conclusion can be proven from the calculated F value, which is 36,054. Meanwhile, the resulting significance value is <0.001 which is smaller than 0.05. Thus it can be concluded that this multiple regression model is feasible to use, and the independent variables including Personnel Expenditure, Goods and Services, and Capital Expenditure have a simultaneous influence on the Financial Performance variable in 52 OPDs in the Bangkalan Regency Government in 2021-2023, so that the fourth hypothesis (H4) is accepted.
5. From the results of testing the research hypothesis, it shows that among the variables of Employee Expenditure, Goods and Services Expenditure, and Capital Expenditure, the dominant effect on Financial Performance in 52 OPDs in the Bangkalan Regency Government in 2021 - 2023 is Goods and Services Expenditure. This conclusion is evidenced by the results of multiple linear regression tests obtained by the regression coefficient of the Goods and Services Expenditure variable of 0.363, which is greater than the regression coefficient of the Employee Expenditure variable of 0.336 and the regression coefficient of the Capital Expenditure variable of -0.015. This shows that the Goods and Services Expenditure variable has the largest beta coefficient among the other independent variables, which means that the Goods and Services Expenditure variable is the most dominant variable affecting the Financial Performance of the Bangkalan Regency Government Regional Apparatus Organisation so that the fifth hypothesis (H5) is accepted.

A. Sugestion

Based on the results of the research and the conclusions that have been presented, the researchers then submit suggestions that can provide benefits to the parties involved in the results of this study. The suggestions that can be conveyed are as follows:

1. To the Bangkalan Regency Government in each fiscal year to increase the realisation of Goods and Services Expenditures which will have an impact on increasing regional infrastructure development, improving the quality of public services, and spurring the growth of MSMEs in Bangkalan Regency so that they can support Sustainable Development in Bangkalan Regency.
2. To academics and researchers, to obtain better study results, it is necessary to conduct another test on the factors that influence the Financial Performance of Regional Apparatus Organisations in the Bangkalan Regency Government by considering other variables that affect the Financial Performance of Regional Apparatus Organisations.

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The Influence of Work Environment and Workload on the Employee Performance of Surabaya Regional Health Laboratory with Work Motivation as An Intervening Variable

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ABSTRACT

Purpose: This study aims to examine and analyze the influence of the work environment and workload on employee performance, with work motivation as an intervening variable.

Design/methodology/approach: The research utilized a Saturated Sampling method, distributing questionnaires to all 44 employees of the Surabaya Regional Health Laboratory. Data were processed using the SEM-PLS application.

Findings: The findings reveal that the work environment does not significantly affect employee performance, while workload has a significant impact on performance. The work environment significantly influences work motivation, as does workload. Moreover, work motivation significantly affects employee performance. However, neither the work environment nor workload has a significant effect on employee performance through work motivation as an intervening variable at the Surabaya Regional Health Laboratory.

Originality/value: This study contributes to understanding the factors influencing employee performance at the Surabaya Regional Health Laboratory. It confirms that while workload directly impacts performance, the work environment, although positive, does not significantly enhance performance. Furthermore, work motivation plays a crucial role in directly boosting employee performance, though it does not serve as a significant intervening variable between the work environment or workload and performance.

Paper type: Research paper

Keywords: *Work Environment, Workload, Work Motivation, Performance.*

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I. INTRODUCTION

Health is an essential aspect that remains a priority need for humans. The development of various bacteria and viruses that cause the emergence of diseases continues to increase and has become a global concern. Moreover, the recent outbreak of the Coronavirus (Covid-19) over the past three years has led to a massive loss of human lives worldwide, including in Indonesia.

Essentially, many diseases currently emerging in the world, including in Indonesia, are indirectly caused by humans themselves by not paying attention to their mindset, lifestyle, and daily diet. Various research studies, particularly in the field of health, are continuously being conducted in every region to anticipate, prevent, and even find solutions for handling various diseases both now and in the future, in order to achieve the vision of a Healthy Indonesia.

One of the elements that can significantly contribute to achieving organizational goals is human resources. They play an active role in setting plans, systems, processes, and the objectives the organization aims to achieve. To reach these goals, it is crucial for the organization to provide adequate facilities and a conducive work environment for its employees (Kaswan, 2019). The work environment has the potential to influence employees' ability to complete the workload assigned by the organization or institution (Rijasawitri and Suana, 2020). Every responsibility or workload undertaken will be assessed as part of the employee's performance evaluation

(Mahawati et al., 2021). It is unavoidable that every workload or task comes with challenges or difficulties that employees must face, which can lead to stress and affect the results achieved (Hermina and Yosepha, 2019). With good motivation, employees will be more enthusiastic in their work and capable of delivering optimal performance (Lesva Cahyani, 2022).

The Regional Health Laboratory (Labkesda) of Surabaya City is one of the health laboratory facilities and serves as a reference for healthcare services in Surabaya. In line with its vision and mission, the Labkesda of Surabaya City is expected to become a quality, trustworthy, and professional health laboratory service center, continuously improving and developing its laboratory services for its clients. Currently, there is a continuous increase in examination requests from various other healthcare facilities as well as individuals to the Labkesda of Surabaya City.

One of Labkesda's current efforts is to continuously update its examination processes through digital transformation, involving more advanced and sophisticated technology to ensure optimal service. Indirectly, this leads to an increase in both physical and mental workload for the available employees at Labkesda. Additionally, the workplace environment needs to be considered in terms of physical layout and office design, machinery arrangement, ventilation, lighting, security, and cleanliness. All these aspects play a role in creating a healthy, comfortable, and supportive work environment that enhances productivity and employee well-being.

Some research gaps in this study include, according to Kamil Hafidzi et al. (2023), that the work environment has a significant and positive impact on employee performance, while the research by Deviyana et al. (2023) indicates that the work environment does not affect employee performance. Regarding motivation as an intervening variable, research by Asfar and Anggraeni (2020) shows a significant and positive effect of the work environment on employee performance through motivation. However, the study by Lianasari and Ahmadi (2022) found that work motivation does not mediate the relationship between the work environment and employee performance. Several studies on workload also reveal research gaps. For example, Herlambang et al. (2022) found that workload has a significant and positive effect on employee performance, while Lesva Cahyani (2022) found that workload does not have a significant effect on performance. Regarding motivation as an intervening variable, the study by Dasrin et al. (2020) shows that workload has a significant and positive effect on performance through motivation, whereas Hendra (2022) found that workload does not affect performance through motivation.

A. Literature Review

1. Work Environment

The work environment is also considered an important aspect for the smooth running of work processes, where comfort and safety at work are also factors that are highly emphasized (Enny, 2019). According to Idayati et al. (2020), a positive work atmosphere can enhance performance, while a poor work environment can increase the risk or the level of errors made by employees.

2. Workload

The workload is also a critical aspect that affects employee productivity and well-being (Gawron, 2019). The workload is not merely a set of tasks to be completed, but also a reflection of job demands, the work environment, and its impact on work-life balance (Saputra, 2022).

3. Work Motivation

Work motivation is an attitude or mindset within an individual that creates enthusiasm for working together, working effectively, and integrating all efforts to achieve positive performance and job satisfaction (Armstrong and Taylor, 2020).

4. Performance Employee

Employee performance is the result of three main factors: "The ability, behavior, and interest of a worker; the understanding and acceptance of a worker's role; and the level of work motivation" (Irawati et al., 2021). The importance of understanding and improving employee performance is not only focused on achieving individual targets but also involves how employees interact within teams, their ability to adapt to changes, and their contribution to creating a positive work culture (Basori et al., 2017).

II. METHOD

A. Conceptual Framework

Referring to the background information, research objectives, and previous research findings, a conceptual framework has been developed to provide more detailed guidance in achieving the objectives of this research. The outline of the conceptual framework in this study can be presented as follows:

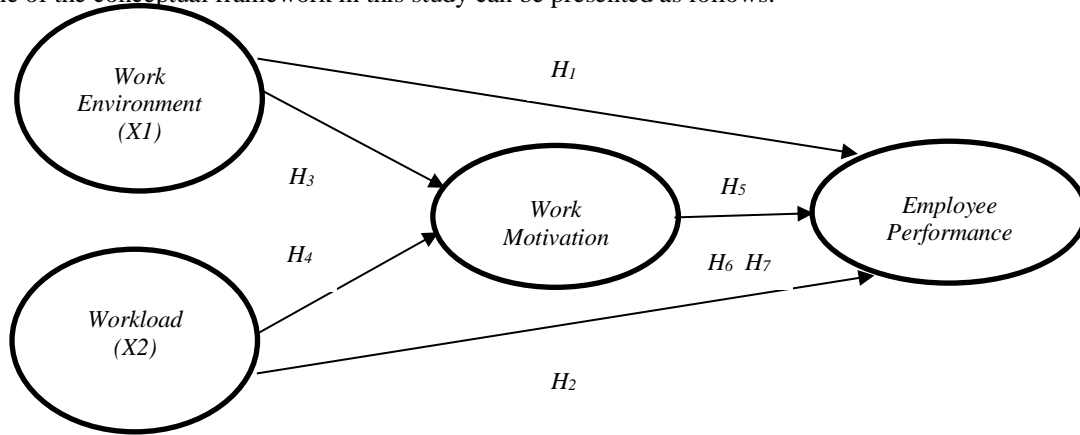


Figure 1. Research Conceptual Framework

B. Hypothesis

The work environment encompasses all the factors surrounding employees that can influence their performance in carrying out assigned tasks (Enny, 2019). The research findings of (Sukaisih et al., 2022) indicate that the work environment has a significant and positive impact on employee performance. From the above explanation, the following hypothesis is strengthened

H1: The work environment has a significantly positive impact on employee performance.

Workload refers to the physical, mental, and social demands/tasks that each individual faces, with a set deadline for completion according to their abilities and limitations (Mahawati et al., 2021). According to (Sugita et al., 2024), it was found that workload significantly affects employee performance. From the above explanation, the following hypothesis is strengthened

H2: Workload has a significantly negative impact on employee performance.

Employees who feel comfortable and happy in their environment will provide strong support in their work (Khoiriah et al., 2019). According to (Idayati et al., 2020), the work environment can have a significant and positive impact on work motivation. From the above explanation, the following hypothesis in this study is strengthened

H3: The work environment has a significantly positive impact on work motivation.

Employees who are required to complete all their tasks simultaneously will experience high levels of stress, which can reduce their enthusiasm for work. In other words, excessive workload can decrease employee work motivation (Pandowo et al., 2024). Based on previous research (Atika et al., 2021), workload has a significant impact on employee work motivation. From the above explanation, the following hypothesis in this study is strengthened:

H4: Workload has a significantly negative impact on work motivation.

Motivation is essential as a stimulus for an individual to complete their work optimally. If employees in a company do not receive proper stimulation, it will affect their performance (Atika et al., 2021). Based on previous research (Lesva Cahyani, 2022), work motivation has a significant and positive impact on employee performance. From the above explanation, the following hypothesis in this study is strengthened:

H5: Work motivation has a significant impact on employee performance

One of the key aspects of achieving optimal performance is having a supportive work environment. When this is combined with strong motivation, it greatly facilitates the achievement of organizational goals. This is supported by previous research, which found that the work environment has a significant and positive impact on performance through work motivation (Asfar and Anggraeni, 2020). From the above explanation, the following hypothesis is derived:

H6: The work environment has a significant impact on employee performance, with work motivation as an intervening variable.

An ideal workload, supported by motivation, will generate work enthusiasm, thereby directly enhancing optimal performance. According to previous research, workload has a positive and significant impact on performance through motivation (Dasrin et al., 2020). From the above explanation, the following hypothesis is supported:

H7: Workload has a significantly negative impact on employee performance, with work motivation as an intervening variable.

C. Data Collection and Analysis Technique

This type of research falls into the category of quantitative research. Quantitative research methods can be defined as "a research approach based on positivist philosophy, used to investigate a specific population or sample, with data collection techniques involving research tools or instruments, and data analyzed quantitatively or statistically with the aim of testing previously formulated hypotheses" (Sugiyono, 2021). The sample for this research was selected using a saturated sampling method, meaning that all 44 employees of the Surabaya City Health Laboratory were included as the research sample. This approach indicates that if the population size is less than 100 individuals, the entire population can be used as the research sample (Sugiyono, 2021). The data collection method in this research involves the use of a brief questionnaire. The questionnaire is completed through Google Forms. The data collection technique used by researchers is a questionnaire with a Likert Scale of 1-5. The data analysis technique in this research uses Structural Equation Modeling (SEM). The analytical method used in this research is Outer Model Analysis, Inner Model Analysis, to test the hypothesis, the p-values test is carried out using the Structural Equation Modeling (SEM) application.

III. RESULT AND DISCUSSION

A. Results

1. Overview of Respondents

The characteristics of the respondents studied in this study consisted of the gender, education and length employees at the Surabaya Regional Health Laboratory.

Table 1. Overview of Respondents Based on Gender

<i>Characteristic</i>	<i>Description</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Gender</i>	<i>Male</i>	<i>19</i>	<i>43%</i>
	<i>Female</i>	<i>25</i>	<i>57%</i>
	<i>Total</i>	<i>44</i>	<i>100%</i>
<i>Education</i>	<i>SD</i>	<i>1</i>	<i>2%</i>
	<i>SMA/SMK</i>	<i>6</i>	<i>14%</i>
	<i>D III</i>	<i>18</i>	<i>41%</i>
	<i>D IV</i>	<i>1</i>	<i>2%</i>
	<i>S 1</i>	<i>16</i>	<i>36%</i>
	<i>S 2</i>	<i>1</i>	<i>2%</i>

	<i>Profession</i>	<i>1</i>	<i>2%</i>
	<i>Total</i>	<i>44</i>	<i>100%</i>
<i>Length of Service</i>	<i>< 1 years</i>	<i>6</i>	<i>14%</i>
	<i>1 – 5 years</i>	<i>25</i>	<i>57%</i>
	<i>6 – 10 years</i>	<i>5</i>	<i>11%</i>
	<i>>10 years</i>	<i>8</i>	<i>18%</i>
	<i>Total</i>	<i>44</i>	<i>100%</i>

Source: Processed primary data (2024)

According on table 1, it is known that there were 44 respondents (100%). Based on the characteristics of the respondents above, it shows that the majority of respondents are women. It can be seen that the majority respondents, 41% are Diploma III and the minority respondents is Diploma IV, Master and Profession with a percentage 2%. Then, based on the length of service, it was found that the respondent's character was at most 1-5 years and at least 6-10 years.

Based on the results of the characteristics of these respondents, it will be known that each employee will be different in assessing the variables discussed in this research, so that they can produce valid values.

2. Analysis Technic

The Structural Equation Modeling (SEM) method is a combination of mathematical engineering methods and path analysis. Model Scheme in this research, hypothesis testing uses the Partial Least Square (PLS) analysis technique with the smartPLS 4.0 program.

3. Outer Model Testing

a. Convergent Validity

To test convergent validity, the outer loading or loading factor value is used. An indicator is declared to meet convergent validity in the good category if the outer loading value is $> 0,6$. In the first stage of testing with all indicators, several indicators were found to be invalid, leading to the elimination of the invalid indicators, namely (X1.2, Z1.1, Z1.3, Z1.4, Z1.5, Y1.3, Y1.5). Subsequently, a convergent validity test was conducted, yielding the results shown in Table 4 below. The following are the loading factor values for each indicator on the research variables:

Table 4. Loading Factor

<i>Variable</i>	<i>Indicator</i>	<i>Loading Factor</i>	<i>Rule of Thumb</i>	<i>Conclusion</i>
<i>Work Environment (X1)</i>	<i>X1.1</i>	<i>0,808</i>	<i>0,6</i>	<i>Valid</i>
	<i>X1.3</i>	<i>0,844</i>	<i>0,6</i>	<i>Valid</i>
	<i>X1.4</i>	<i>0,826</i>	<i>0,6</i>	<i>Valid</i>
	<i>X1.5</i>	<i>0,849</i>	<i>0,6</i>	<i>Valid</i>

<i>Workload (X2)</i>	<i>X2.1</i>	<i>0,862</i>	<i>0,6</i>	<i>Valid</i>
	<i>X2.2</i>	<i>0,867</i>	<i>0,6</i>	<i>Valid</i>
	<i>X2.3</i>	<i>0,756</i>	<i>0,6</i>	<i>Valid</i>
<i>Work Motivation (Z)</i>	<i>Z1.2</i>	<i>0,901</i>	<i>0,6</i>	<i>Valid</i>
	<i>Z1.6</i>	<i>0,776</i>	<i>0,6</i>	<i>Valid</i>
<i>Employee Performance (Y)</i>	<i>Y1.1</i>	<i>0,940</i>	<i>0,6</i>	<i>Valid</i>
	<i>Y1.2</i>	<i>0,956</i>	<i>0,6</i>	<i>Valid</i>
	<i>Y1.4</i>	<i>0,775</i>	<i>0,6</i>	<i>Valid</i>
	<i>Y1.6</i>	<i>0,848</i>	<i>0,6</i>	<i>Valid</i>

Data Source: 2024 PLS Data Processing Results

The data presented in table 4 above shows that each research variable indicator has an outer loading value of > 0.7 . The data above shows that there are no variable indicators whose outer loading value is below 0.6, so that all indicators are declared suitable or valid for research use and can be used for further analysis.

b. Discriminant Validity

In this section, the results of the discriminant validity test will be described. The discriminant validity test uses cross loading values. An indicator is declared to meet discriminant validity if the cross loading value of the indicator on the variable is the largest compared to other variables. The following is the cross loading value of each indicator :

Table 5. Cross Loading

<i>Indicator</i>	<i>Workload</i>	<i>Employee Performance</i>	<i>Work Motivation</i>	<i>Work Environment</i>	<i>Conclusion</i>
<i>X1.1</i>	<i>0.443</i>	<i>0.331</i>	<i>0.478</i>	<i>0.808</i>	<i>Valid</i>
<i>X1.3</i>	<i>0.442</i>	<i>0.299</i>	<i>0.644</i>	<i>0.844</i>	<i>Valid</i>
<i>X1.4</i>	<i>0.520</i>	<i>0.474</i>	<i>0.532</i>	<i>0.826</i>	<i>Valid</i>
<i>X1.5</i>	<i>0.448</i>	<i>0.283</i>	<i>0.498</i>	<i>0.849</i>	<i>Valid</i>
<i>X2.1</i>	<i>0.862</i>	<i>0.682</i>	<i>0.608</i>	<i>0.570</i>	<i>Valid</i>
<i>X2.2</i>	<i>0.867</i>	<i>0.611</i>	<i>0.598</i>	<i>0.461</i>	<i>Valid</i>
<i>X2.3</i>	<i>0.756</i>	<i>0.571</i>	<i>0.316</i>	<i>0.329</i>	<i>Valid</i>

Z1.2	0.598	0.607	0.901	0.682	Valid
Z1.6	0.444	0.465	0.776	0.371	Valid
Y1.1	0.696	0.905	0.555	0.380	Valid
Y1.2	0.590	0.855	0.428	0.217	Valid
Y1.4	0.589	0.717	0.571	0.393	Valid
Y1.6	0.616	0.848	0.588	0.404	Valid

Data Source: 2024 PLS Data Processing Results

According to the data in table 5, it shows that the loading value of each indicator item on the construct is greater than the cross-loading value. Thus, it can be concluded that all constructs or latent variables have good discriminant validity, where in the block the construct indicators are better than the other block indicators.

c. Cronbach’s Alpha and Composite Reliability

Besides construct validity testing, construct reliability testing was also carried out as measured by composite reliability and Cronbach's alpha of the indicator block that measures the construct. The following are the results of composite reliability and Cronbach's alpha testing from Smart PLS:

Table 6. Composite Reliability and Cronbach’s Alpha

Variable	Cronbach's Alpha	Rule ofThumb	CompositeReliability	Rule ofThumb
Workload	0.776	0.6	0.869	0.7
Employee Performance	0.851	0.6	0.901	0.7
Work Motivation	0.597	0.6	0.828	0.7
Work Environment	0.852	0.6	0.900	0.7

Data Source: 2024 PLS Data Processing Results

A variable is declared reliable if it has a composite reliability value above 0.7 and Cronbach's alpha above 0.60. From the SmartPLS output results above, all variables have composite reliability values above 0.70 and Cronbach's alpha above 0.60. So it can be concluded that validity has good reliability.

d. Average Variance Extracted (AVE)

Apart from observing the cross-loading value, discriminant validity can also be determined through other methods, namely by looking at the average variant extracted (AVE) value for each indicator, the required value must be > 0.5 for a good model.

Table 7. Average Variant Extracted (AVE)

Variable	AVE	Conclusion
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<i>Work Environment</i>	<i>0,692</i>	<i>Reliable</i>
<i>Workload</i>	<i>0,689</i>	<i>Reliable</i>
<i>Work Motivation</i>	<i>0,707</i>	<i>Reliable</i>
<i>Employee Performance</i>	<i>0,696</i>	<i>Reliable</i>

Data Source: 2024 PLS Data Processing Results

From the SmartPLS output results above, all variables have AVE values above 0.50. So it can be concluded that validity has good reliability

4. Inner Model Testing

This research will explain the results of the path coefficient test, R-square, f-square, goodness of fit test, Q-square and hypothesis test.

a. Determination Coefficient (R²) Test Results

The determination coefficient (R-Square) is used to measure how much endogenous variables are influenced by other variables. Based on data processing that has been carried out using the SmartPLS program, the R-Square values are obtained as follows:

Table 9. R-Square Value

<i>Variable</i>	<i>R-Square</i>
<i>Employee Performance</i>	<i>0,625</i>
<i>Work Motivation</i>	<i>0,528</i>

Data Source: 2024 PLS Data Processing Results

Based on the data presented in table 9 above, it can be seen that the R-Square value for the Employee Performance (Y) variable is 0.625 (moderat) which gives the meaning that contribution of variables X1, X2 and Z to Y is equal to 62.5% and the remaining 27.5% is the contribution of other variables not included in the study. Then the R-Square value obtained for the Work Motivation variable is 0.528 (moderat). This value explains that contribution of variables work environment, workload and employee performance to work motivation at 52.8% and the remaining 47.2% is the contribution of other variables not included in the study.

b. Effect Size (f²) Results

The change in the R-square value can be used to determine whether the influence of exogenous latent variables on endogenous latent variables has a substantive impact. Therefore, it is necessary to measure the effect size (f²), with the recommended values for exogenous latent variables being 0.02 (small), 0.15 (moderate), and 0.35 (large) (Cohen, 1998).

Table 10. f-Square Value

<i>Variable</i>	<i>f-Square</i>
<i>Workload → Employee Performance</i>	<i>0,557</i>
<i>Workload → Work Motivation</i>	<i>0,217</i>

<i>Work Environment → Employee Performance</i>	<i>0,035</i>
<i>Work Environment → Work Motivation</i>	<i>0,279</i>
<i>Work Motivation → Employee Performance</i>	<i>0,167</i>

Data Source: 2024 PLS Data Processing Results

c. Predictive Relevance Test (Q²)

The Q-Square value has the same meaning as coefficient determination (R-Square) in regression analysis, where the higher the Q-Square, the better or more fit the model can be to the data.

The results of calculating the Q-Square value are as follows:

$$\begin{aligned}
 \text{Q-Square} &= 1 - [(1 - R_1^2) \times (1 - R_2^2)] \\
 &= 1 - [(1 - 0,625^2) \times (1 - 0,528^2)] \\
 &= 1 - (0,609375 \times 0,721216) \\
 &= 1 - 0,439491 \\
 &= 0,560509
 \end{aligned}$$

From the Q-Square calculation, it is known that the Q-Square value is 0.561. This shows that the large diversity of research data that can be explained by the research model is 56.1%. Meanwhile, the remaining 43.9% is explained by other factors outside this research model. Thus, from these results, this research model can be stated to have good goodness of fit.

d. Model Goodness of Fit (GoF)

The goodness of fit assessment is known from the Q-Square value. The Goodness of Fit (GoF) test is used to validate the combined performance of the measurement model and the structural model. The GoF value ranges from 0 to 1, with the interpretation of the values as follows: 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF). The results of calculating the GoF value are as follows:

Table 11. Compare AVE and R-Square Value

<i>Variable</i>	<i>AVE</i>	<i>R-Square</i>
<i>Work Environment</i>	<i>0,692</i>	
<i>Workload</i>	<i>0,689</i>	
<i>Work Motivation</i>	<i>0,707</i>	<i>0,528</i>
<i>Employee Performance</i>	<i>0,696</i>	<i>0,625</i>
<i>Total</i>	<i>2,784</i>	<i>1,153</i>

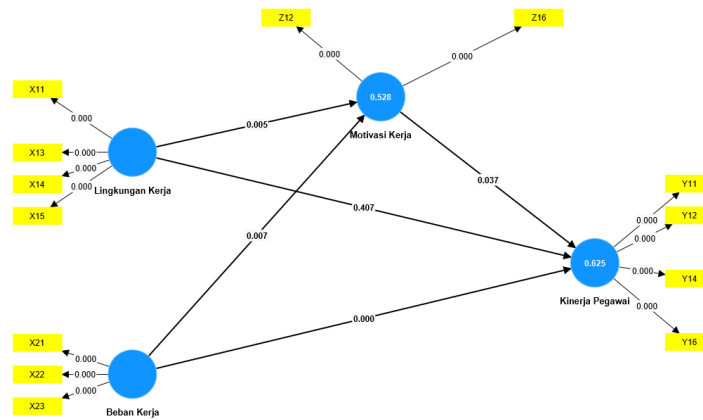
Data Source : 2024 PLS Data Processing Results

$$\begin{aligned}
 \text{GoF} &= \sqrt{\text{AVE} \times \overline{R^2}} \\
 &= \sqrt{2,784 \times 1,153} \\
 &= \sqrt{0,696 \times 0,5765} \\
 &= \sqrt{0,401244} \\
 &= 0,633438237
 \end{aligned}$$

From the GoF calculation, it is known that the GoF value is 0.633438237. Thus, from these results, this research model can be stated to have good goodness of fit with category large (more than 0.36).

e. Hypothesis Testing

Hypothesis testing was carried out using the bootstrapping resampling method developed by Geisser and Stone. The image below shows the results that this model meets the validity and reliability tests on each path tested :



Model SEM-PLS

Based on the data processing that has been carried out, the results can be used to answer the hypothesis in this research. Hypothesis testing in this research was carried out by looking at the T-Statistics values and P-Values values. The research hypothesis can be declared accepted if the P-Values value is < 0.05. The following are the results of hypothesis testing obtained in this research through the inner model:

Table. 11 Hypothesis Testing

Hypothesis	Influence	Coefficient	T-statistics	P-Values	Result
H1	Work Environment → Employee Performance	-0.156	0.829	0.407	Rejected
H2	Workload → Employee Performance	0.608	3.942	0.000	Accepted
H3	Work Environment → Work Motivation	0.437	2.804	0.005	Accepted
H4	Workload → Work Motivation	0.386	2.681	0.007	Accepted
H5	Work Motivation → Employee Performance	0.364	2.088	0.037	Accepted
H6	Work Environment → Employee Performance with Work Motivation as Intervening Variable	0.159	1.477	0.140	Rejected
H7	Workload → Employee Performance with Work Motivation as Intervening Variable	0.140	1.510	0.131	Rejected

Data Source : 2024 PLS Data Processing Results

Based on the data presented in the table. 11 above, it can be seen that of the seven hypotheses proposed in this research, they are as follows:

The influence of Work Environment on Employee Performance a P-value of 0.407 or greater than 0.05. This means that the Work Environment variable is negative and does not have a significant influence on Employee Performance. The influence of Workload on Employee Performance has a P-value of 0.000 or greater than 0.05. This means that the Workload variable is positive and does not have a significant influence on Employee

Performance. The influence of Work Environment on Work Motivation has a P-value of 0.005 or less than 0.05. This means that the Work Environment variable is positive and has a significant influence on Work Motivation. The influence of Workload on Work Motivation has a P-value of 0.007 or less than 0.05. This means that the Workload variable is positive and has a significant influence on Work Motivation. The influence of Work Motivation on Employee Performance has a P-value of 0.037 or less than 0.05. This means that the Work Motivation variable is positive and has a significant influence on Employee Performance. The influence of work environment on employee performance has a P-value of 0.140 or greater than 0.05. This means that the work environment is positive and does not have a significant influence on employee performance with work motivation as intervening variable. The influence of workload on employee performance has a P-value of 0.131 or greater than 0.05. This means that the workload variable is positive and does not have a significant influence on employee performance with work motivation as a intervening variable.

B. Discussion

In this section, will discuss the research hypothesis which is explained as follows:

1. The Influence of Work Environment on Employee Performance

From the analysis of the variable above, the p-value of the work environment is $0,407 > 0,05$. This means that work environment (X1) does not have a significant effect on employee performance (Z). The results of this research are supported by the results of research conducted by (Sipayung and Purba, 2021), (Viorencea et al., 2022) and (Deviyana et al., 2023) this shows that the work environment must be paid more attention to properly and conducive so that employee performance increases and vice versa

2. The Influence of Workload on Employee Performance

Based on the results of the second hypothesis test, the p-value of the workload is $0.000 < 0.05$. This means that the workload (X2) has a significant effect on employee performance. The results of this research are supported by research (Herlambang et al., 2022), (Sugita et al., 2024), (Sipayung and Purba, 2021), (Cahyaningtyas, 2021) and (Fadhli and Hanafi, 2023) on the other hand, if the workload is small it will affect employee performance to not be optimal in completing tasks. This states that the more tasks or pressure the employees receive, the more optimal the resulting performance can be for the sustainability of the organization.

3. The influence of Work Environment on Work Motivation

Referring to the results of the third hypothesis test, the p-values obtained for the work environment (X1) = $0.005 < 0.05$. This means that work environment (X1) has a significant effect on work motivation. The results of this research are in accordance with the results of research conducted by (Kamil Hafidzi et al., 2023), (Sukaisih et al., 2022), (Idayati et al., 2020), (Rahmadhani dan Susanti, 2022) and (Kurniawan and Heryanto, 2019). Thus it can be stated that the better the Work Environment, the better the Work Motivation. Conversely, if work environment is low, the less work motivation will be down. The existence of a good work environment will influence the work enthusiasm of each employee. Thus, the more supportive the work environment in the organization, the more employee morale will increase in completing their work.

4. The influence of Workload on Work Motivation

Based on the results of the fourth hypothesis test, the p-value of the workload variable (X2) = $0.007 < 0.05$. This means that the workload (X2) has a significant effect on work motivation (Z). The results of this research are supported by research (Sugita et al., 2024) and (Ridhanoor and Claudia, 2024). This research states that workload refers to the demands that employees must meet within a certain period of time. The higher the workload, the more it can encourage employees to sharpen their skills, allowing them to develop effectively. The increase in each employee's abilities will lead to a more comfortable work environment and will also boost their motivation to complete their tasks well and on time.

5. The influence of Work Motivation on Employee Performance

Based on the results of the fifth hypothesis test, statistically the p-value of the work motivation variable (Z) = $0.037 < 0.05$. This means that the work motivation (Z) has a significant effect on employee performance (Y). The results of this research are supported by research (Lesva Cahyani, 2022), (Hendra, 2022), (Dasrin et al., 2020), (Sukaisih et al., 2022), (Idayati et al., 2020), (Sugita et al., 2024), (Sipayung and Purba, 2021), (Fadhli and Hanafi, 2023), (Prabowo et al., 2023) and (Kurniawan and Heryanto, 2019). These results can be understood through the indicator of motivation, which significantly contributes to performance improvement, particularly in relation to a comfortable work environment, the establishment of good relationships among employees, and supervisors who always appreciate the employees' work

6. The influence of Work Environment on Employee Performance with Work Motivation as Intervening Variable

Based on the results of the sixth hypothesis test that the p-value of $0.140 > 0.05$ indicates that the work environment does not have a significant effect on employee performance through work motivation. The results of this research contradict previous research conducted by (Asfar and Anggraeni, 2020) and (Kurniawan and Heryanto, 2019) which stated that the work environment has a significant effect on employee performance through work motivation.

7. The influence of Workload on Employee Performance with Work Motivation as Intervening Variable

Based on the results of the sixth hypothesis test that the p-value of $0.131 > 0.05$ indicates that the workload does not have a significant effect on employee performance through work motivation. The results of this research contradict previous research conducted by (Dasrin et al., 2020) which stated that the workload has a significant effect on employee performance through work motivation.

IV. CONCLUSION

In accordance with the research results described in the previous chapter, several conclusions can be drawn, including:

Work environment does not have a significant effect on the employee performance of the Surabaya City Regional Health Laboratory. Workload has a significant effect on the employee performance of the Surabaya City Regional Health Laboratory. Work environment has a significant effect on the work motivation of the Surabaya City Regional Health Laboratory. Workload has a significant effect on the work motivation of the Surabaya City Regional Health Laboratory. Work motivation has a significant effect on the employee performance of the Surabaya City Regional Health Laboratory. Work environment not effect on employee performance through work motivation as an intervening variable in Surabaya City Regional Health Laboratory. Workload not effect on employee performance through work motivation as an intervening variable in Surabaya City Regional Health Laboratory.

A. Suggestions

Based on the conclusions and limitations of the research, the researchers suggest:

The data processing results also show that the work environment does not have an impact on employee performance. However, it would be beneficial to further evaluate and improve the work environment so that a better work environment can enhance employee performance

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Analysis of Employee Performance at the Murung Raya Village Office, South Banjarmasin District

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ABSTRACT

Purpose: This study aims to find out and analyze the performance of employees at the Murung Raya Village Office, South Banjarmasin District.

Design/methodology/approach: This study is a descriptive analysis. The population in this study is all employees at the Murung Raya Village office, South Banjarmasin District. Sample withdrawal uses a saturated sample technique, where all populations are respondents in this study. The analysis technique used is descriptive analysis.

Findings: The results of the study can be concluded that employees are able to position their abilities in the tasks given by their superiors to complete and be responsible for all these tasks.

Research limitations/implications: This research is limited to descriptive analysis so that researchers can further explore methods, techniques, and larger populations.

Practical implications: The performance of the employees has also been categorized as very good, because the performance they do is in accordance with the expectations of the superiors and what is applied so that the performance carried out goes well, in accordance with the expectations of the superiors at the village office.

Originality/value: This research is useful for the development of employee performance in the village.

Paper type: Research paper

Keyword: Performance, Employees, Village, Banjarmasin.

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I. INTRODUCTION

The lack of quality of human resources is a problem that can hinder the development and development of the national economy. The lack of quality of human resources will also be a barrier in the era of globalization, because the era of globalization is an era of quality competition. If the Indonesian nation wants to take part in the global arena, then the first step that must be taken is to organize human resources, both in terms of intellectual, spiritual, creative, moral, and responsibility. The quality of human resources is related to performance. Basically, performance is what results from the functions of a job or what comes out. If we delve into what happens in a job or position, it is a process that processes input into out-put (work results). The use of key indicators to measure individual performance results, is derived from functions that are translated into activities/actions with a clear and written standard foundation. Given that performance contains competence and productivity of results, performance outcomes are highly dependent on the level of individual ability in achieving them, especially organizational goals.

Organizations are created to achieve a certain goal. This goal is something that the organization expects to achieve. The purpose of organization can be in the form of improving customer service, fulfilling market demand, improving the quality of products or services, increasing competitiveness, and improving organizational performance. Each organization, team, or individual can define its own goals.

Performance is also very beneficial not only for the organization, but also for managers, and employees. The benefits of performance management for organizations include aligning organizational goals with team and individual goals, improving performance, motivating workers, increasing commitment, supporting core values, improving training and development processes, improving the skill base, pursuing continuous improvement and development, working on a career planning base, helping to keep skilled workers from moving, supporting total quality and stewardship initiatives work, and support cultural change.

Performance appraisal is an activity carried out by appraiser management to assess the performance of resources or employees by comparing performance in a certain period, usually at the end of each year. This activity is intended to measure the performance of each employee/employee in developing work quality, further coaching, corrective actions for jobs that are not in accordance with the job description, and for purposes related to other employment issues.

Based on the description above, it is known that by carrying out performance, the positive impact is very beneficial for organizations, teams and individuals. Performance management also supports the realization of the overall goals of the organization by looking at the work of each employee or employee and manager in the entire work unit. Employees or employees are the key to the success of an organization. If the leader follows the soul of a good leader, he will manage the performance of his subordinates directly and can affect the performance of individuals, work units, and the entire organization.

The work activity in achieving organizational goals is a matter that is highly prioritized by every organization, and employee work discipline also greatly affects the achievement of an organization because in order to achieve these goals. Employee work discipline which can be said to be still lacking in discipline, it will be difficult for the organization to be able to achieve good results and goals. The discipline factor greatly determines the success of an organization in achieving the expected goals.

Meanwhile, the work services carried out by employees at the Murung Raya Village Office, it turns out that there are still indications that show that employee discipline in work cannot be carried out properly so that it has a negative impact. The problem of work quality and working time is one of the mistakes and negligence of employees at work. This can be seen based on community complaint reports, such as when the community took care of the Certificate of Inability (SKTM), the community said that it was difficult to take care of the Certificate of Inability (SKTM) because the Village Office Employees were very slow in carrying out their work or the employees were not in place during working hours.

The results of the author's observation in the field for the community who do business to the Village Office, the results are not in accordance with or not exactly according to the predetermined time because the employee concerned is not in the office, this proves that the performance of the employees is not good and effective. However, the most prominent problem is discipline which can be seen from the violation of attendance related to the low commitment of employees at the Murung Raya Village Office, South Banjarmasin District, so every employee or employee at the village office should be able to comply with all the regulations that have been set, but in reality there are still many employees or employees who violate the regulations made by the office The village. The employee attendance rate at the Murung Raya Village Office, South Banjarmasin District, is as follows:

Table 1. Employee Attendance Rate of Murung Raya Village Office, 2023

<i>Month</i>	<i>Weekdays</i>	<i>Employees</i>	<i>Those who are not present</i>	<i>%</i>
<i>Jan</i>	<i>22 day</i>	<i>9</i>	<i>5</i>	<i>33,3 %</i>
<i>Feb</i>	<i>22 day</i>	<i>9</i>	<i>4</i>	<i>26,6 %</i>
<i>Mar</i>	<i>22 day</i>	<i>9</i>	<i>2</i>	<i>13,3 %</i>
<i>Apr</i>	<i>22 day</i>	<i>9</i>	<i>2</i>	<i>13,3 %</i>
<i>Mei</i>	<i>22 day</i>	<i>9</i>	<i>1</i>	<i>6,6 %</i>
<i>Jun</i>	<i>22 day</i>	<i>9</i>	<i>3</i>	<i>20 %</i>

<i>Jul</i>	<i>22 day</i>	<i>9</i>	<i>3</i>	<i>20%</i>
<i>Aug</i>	<i>22 day</i>	<i>9</i>	<i>2</i>	<i>13,3 %</i>
<i>Sep</i>	<i>22 day</i>	<i>9</i>	<i>1</i>	<i>6,6%</i>
<i>Oct</i>	<i>22 day</i>	<i>9</i>	<i>3</i>	<i>20 %</i>
<i>Nov</i>	<i>22 day</i>	<i>9</i>	<i>2</i>	<i>13,3 %</i>
<i>Dec</i>	<i>22 day</i>	<i>9</i>	<i>1</i>	<i>6,6 %</i>
<i>Total</i>				<i>100</i>

Source : Data from the Murung Raya Village Office, 2023

In Table 1 above, if we look at it, it can be concluded that attendance violations committed by employees or employees can still be said to be high, and continue to show an increase can be seen from January to December 31, 2023 as many as 9 people with the number of effective working days is 22 days, and the table can be seen that the attendance rate regarding the Murung Raya Village Office ranges from 1-5 people or 6.6% to 33.3% and on average The highest attendance rate was 5 people or 33.3%, namely in January. The results of the author's observation in the field for the community who do business to the Murung Raya Village Office, the results are not in accordance with or not exactly according to the time that has been determined because the employee concerned is not in the office, this shows that the performance of the employees is not good and effective . In realizing the work discipline of Village Office Employees that is expected by the community, it is necessary to be supported by tools that have work discipline skills, high work spirit and awareness of their duties and responsibilities as state servants and community servants. According to Sinungan (2015), he gave the opinion that there are several factors that can affect performance and can be seen from the individual.

In accordance with the explanation above, that the Village Office is one of the Offices in Murung Raya in South Banjarmasin District has a Government organizational structure in carrying out its duties carried out by officials or employees where the performance of employees carried out by Village Office Employees is felt to be ineffective. So that the author was challenged at the Murung Raya Village Office with an analysis of the performance of employees at the Murung Raya Village Office in providing services to the community. From the background of the above problems encountered in the field, the author is interested in conducting a research with the title: "Employee Performance Analysis, at the Murung Raya Village Office, South Banjarmasin District".

1. Performance

An employee or employee is a mixture of abilities, efforts and one of the opportunities that can be assessed from the results of his work (Sulistiyani, 2013). Meanwhile, according to (Bernardin and Russell, 2013), it is stated that performance is a record of Outcomes that can be produced from the function of the employee itself in a certain period of time. Performance is a work achievement that can be achieved by a person or a group in an organization, in accordance with their respective responsibilities, not violating the law and in accordance with morals and ethics to achieve these goals. (Suyadi, 2011).

Performance comes from Job Performance or Actual Performance (Work achievements that will be achieved by a person or achievements that have been achieved by a person). Performance is the result of work in terms of quality and quantity achieved by an employee or employee in carrying out his duties in accordance with the responsibilities given to him (Anwar, 2009)

2. Self Ability

Fatimah (2016) The ability to adjust to a healthy environment is one of the important prerequisites for the creation of individual mental/mental health. Many individuals are unable to achieve happiness in their lives because of their inability to adjust to both family life, school, work and society in general. The indicators of self-adjustment are as follows: 1) Ability to work together, 2) Environmental adaptation, 3) Job orientation, 4) Interest in work, 5) Maturity to work response.

3. Discipline

Sinungan (2013) discipline is a mental attitude that is reflected in the actions or behaviors of individuals, groups or communities in the form of obedience to the rules or regulations set by the government or ethics, norms and methods that apply in society for certain purposes. The discipline referred to in this study is the actions or behavior of individuals or groups in the form of obedience to applicable regulations.

II. METHODS

A. Research Object

The researcher conducted the research by taking a location at the Murung Raya Village Office.

B. Population and Sample

In this study, the population used was all employees at the Murung Raya Village Office, South Banjarmasin District. This study uses a saturated sample technique, that is, all populations are samples in this study.

C. Data Source

The data source in this study consists of primary data and secondary data. Primary data in this study was obtained by distributing questionnaires to employees at the Murung Raya Village Office, South Banjarmasin District. Secondary data from this study was obtained from companies that can be seen from company documentation, reference books, and other information related to the research

D. Data Collection

Techniques The data collection techniques used by the researcher are using questionnaires and documentation studies

E. Data Analysis Techniques

The data analysis technique used is descriptive analysis. An analysis that describes the results of each question that is in accordance with the actual conditions and supported by relevant theories about the variables in the research. The answers to the questionnaire are weighted with the following scores or values: SB = Very Good (5) B = Good (4) KB = Not Good (3) TB = Not Good (2) STB = Very Not Good (1)

III. RESULTS AND DISCUSSION

Realizing that the Murung Raya Village government is spearheading the implementation of government, development in all fields and all aspects of life, then its existence needs to receive special attention and continuously. The origin of Murung Raya Village in the 1960s was West Kelayan Village I and is part of the administrative area of the South Banjarmasin District Government. In 1974-1979 South Banjarmasin District still consisted of 5 villages (villages), namely Kelayan Barat I, Kelayan Barat II, Kelayan Timur, Pemurus and Mantuil.

West Kelayan I Village was expanded into 4 new villages, namely West Kelayan Village, Kelayan Luar Village, Kelayan Dalam Village and Kelayan Tengah Village. West Kelayan II Village was expanded into 2 new villages, namely South Kelayan Village and Pekauman Village, East Kelayan Village was expanded into 3 villages, namely East Kelayan Village, Tanjung Pagar Village and Murung Raya Village. Pemurus Village was expanded into 2 villages, namely Pemurus Dalam Village and Pemurus Luar Village, Mantuil Village was expanded into 2 villages, namely Mantuil Village and Basirih Village Along with the increasing population growth, in 2010 the total number of villages in South Banjarmasin amounted to 12 units, namely; Murung Raya Village, West Kelayan Village, Kelayan Dalam Village, South Kelayan Village, Pekauman Village, East Kelayan, Central Kelayan, Mantuil Village, Tanjung Pagar Village, Pemurus Dalam Village, Pemurus Baru Village, and South Basirih Village.

A. Descriptive Analysis

1. Employee Self-Ability at the Murung Raya Village Office, South Banjarmasin

District can be seen in table 2 that self-ability is an important thing to know the performance of the employees at the Murung Raya office.

Table 2 Respondents' Responses to Self-Abilities

<i>Assessment of Respondents</i>	<i>F</i>	<i>%</i>
<i>SB</i>	8	50,5
<i>B</i>	6	49,5
<i>KB</i>	-	
<i>TB</i>	-	
<i>STB</i>	-	
<i>Total</i>	14	100

From Table 2, it can be seen that the response of the respondents is very good with a percentage of 50.5%, while the response of the good respondent is with a percentage of 49.5%.

2. Employee Discipline

At the Murung Raya Village Office, South Banjarmasin District, it can be seen in table 3 that discipline is an important thing to support the performance of employees at the Village Office.

Table 3 Respondents' Responses to Discipline

<i>Assessment of Respondents</i>	<i>F</i>	<i>%</i>
<i>SB</i>	5	43,8
<i>B</i>	9	56,2
<i>KB</i>	-	
<i>TB</i>	-	
<i>STB</i>	-	
<i>Total</i>	14	100

From Table 3, it can be seen that the response of the respondents was very good with a percentage of 43.8%, while the response of the respondents was good with a percentage of 56.2%.

3. Employee Performance at the Murung Raya Village Office, South Banjarmasin District

It can be seen in table 4 that performance is an important thing in an organization to achieve a goal in the organization at the Murung Raya Village office.

Table 4 Respondents' Responses to Discipline

<i>Assessment of Respondents</i>	<i>F</i>	<i>%</i>
<i>SB</i>	8	59,6
<i>B</i>	6	40,4
<i>KB</i>	-	
<i>TB</i>	-	
<i>STB</i>	-	
<i>Total</i>	14	100

From table 4, it can be seen that the response of the respondents was very good with a percentage of 59.6%, while the response of the respondents was good with a percentage of 40.4%. Based on the results, the overall overall performance score is 250. The assessment of the number is scaled in the range of 250-950 with the category of very good. It is said to be good because each variable has run effectively and efficiently so that it can affect the performance of employees very well. The self-ability that exists in the employees who work at the Murung Raya Village office, South Banjarmasin District can be said to have gone very well, because they are able to carry out all the tasks given to the employees well according to what is given by their superiors.

Discipline is also able to affect the performance of employees, but from the results of the research it can be seen that the employees who work at the Murung Raya Village office, South Banjarmasin District are very good, because the employees follow all the regulations that have been set in the office. Be it time discipline, or discipline in doing all the obligations and responsibilities given and completing them in accordance with the provisions and time given.

The performance of the employees at the Murung Raya village office, South Banjarmasin District has also been very good because the employees are responsible both in their duties, in time management, skills, work discipline, self-ability and cooperation between employees so that the work done by the employees runs effectively and efficiently and does not spend much time in vain, and the employees can improve their performance with their own abilities and the cooperation they build.

An organization of government agencies, is an institution that runs the wheels of Government and carries out the development of Human Resources that have good performance and can provide situmulation that affects many people in realizing work in one team. Hasibuan (2011), developing performance is an activity that will improve the technical, theoretical, conceptual and moral abilities of employees or employees in accordance with the needs of the job or position with the aim of improving technical skills to carry out employee work. the performance of employees in carrying out the work of the Office, but also from the ability of their people to complete the work that has been delivered to them, so that the ability of the employee is reflected in the results and level of skills he has. In the description submitted in the limitations stated above, it is said that the performance of employees in each agency or organization is determined by the level or ability in carrying out the work. So every job that can be said to be effective is determined by the achievement of the goals that have been set and the abilities possessed. In addition, it is also determined by the level of work morale of the employee concerned in carrying out the work.

IV. CONCLUSION

In this chapter, the author will outline conclusions and suggestions that may be useful for the development of employees at the Murung Raya Village Office, South Banjarmasin District in the future. Based on the results of the research and recapitulation of respondents' responses regarding self-ability, it can be categorized as very good because employees are able to position their own abilities in the tasks given by their superiors to complete

and be responsible for all these tasks. Discipline can also be said to be very good, because employees are able to obey all the provisions and regulations made by their superiors, be it the office entry hours, break hours and office departure hours have been implemented very well, no employees violate the provisions imposed. Good discipline towards employee performance is also getting better at the Murung Raya Village office, South Banjarmasin District. The performance of the employees has also been categorized as very good, because the performance they do is in accordance with their abilities and discipline applied so that the performance carried out runs well, in accordance with the expectations of the superiors at the village office.

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