

Factor Analysis Of Employee Engagement On Employees At PT XYZ

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Abstract.

This research aims to identify the factors that represent employee engagement at PT. XYZ, model fit, and the emergence of new engagement factors. This research uses quantitative method with a cross-sectional survey of 312 respondents, was conducted using a convenience sampling and 5 scale of Likert for the questionnaire. Data analysis includes descriptive statistics, factor analysis consisting of EFA and CFA. In the process, the analysis was conducted using SPSS and AMOS. The results of this study state that the factors that represent employee engagement at PT. XYZ is Personal Growth & Work Life Balance. The quality of model adjustment values are fit. The identification of new factors that emerged in this study, namely the Agile & Smart Workplace. This study offers a more comprehensive discussion than previous studies by analyzing a large number of factors and indicators through EFA and CFA analysis in stages. To better engage employees, managers is advised to maintain or even improve the factor that represent the engagement of PT. XYZ, develop strategies to formulate more structured employee engagement policies based on data, and create a smart workplace with the practice of utilizing technology and digitalization.

Keywords: Employee Engagement; Quantitative Method; EFA; CFA and Gallup.

I. INTRODUCTION

Employee engagement refers to the level of commitment, enthusiasm, and emotional investment that individuals bring to their roles and the broader workplace environment. When employees are genuinely engaged, they tend to contribute more effectively, leading to stronger organizational performance. In contrast, a lack of employee engagement often undermines team cohesion and hampers efforts to achieve desired business outcomes (Gallup, 2024b). Gallup's report, Global Employee Engagement Remains at Historic High, reveals that only 23% of individuals worldwide are engaged in their work. In Southeast Asia, the engagement rate is projected to reach 26% in 2023. In Indonesia, according to the Engagement Trends by Country data, 25% of 791 respondents reported feeling engaged, while 69% were not engaged, and 6% were actively disengaged (Gallup, 2024a). According to Culture Amp, 74% of employees in Indonesia, report feeling engaged. This figure surpasses the global average engagement rate of 71% (Culture AMP, 2024). Additionally, a report by Qualtrics indicates that employee engagement in Indonesia has reached 86%, based on a sample of 505 employees (Herbert et al., 2023). Organizations typically assess employee engagement through surveys, which provide valuable data for understanding the extent of engagement, employees' emotions, and identifying both strengths and areas in need of improvement (Bridger, 2022). PT XYZ, a private insurance company in Indonesia, conducts an employee engagement survey biennially to evaluate the level of employee engagement and commitment to the organization.

Since 2012, the company's employee engagement index had been in decline, reaching a low of 54% in 2017. However, after adopting the Gallup method in 2020, the index saw a notable increase, eventually reaching 81%. This indicates that PT XYZ employees began to demonstrate higher engagement with the company starting in 2020. There are several aspects used by PT XYZ as a reference in conducting employee engagement surveys including Organization & Policy, Tools & Enablers, Recognition & Contribution, Rewards & Remuneration, Working Environment, Learning & Development, Teamwork, Leadership, Career Path, Work-Life Balance, and Advocacy & Loyalty. This aspect refers to the Gallup framework including basic needs, individual contribution, teamwork, and growth. The top three aspects since 2020 include Organization & Policy, Tools & Enablers, and Teamwork. Meanwhile, Rewards & Remuneration, Career

Path, and Work-Life Balance are the bottom three aspects from 2020 to 2022. In 2024, Career Path is the only bottom engagement aspect which is the Company's critical focus at the moment. In addition to internal conditions, the emergence of the COVID-19 pandemic some time ago has created disruptions to work dynamics. According to Tessema et al. (2024), the pandemic is an external factor that has a major impact on organizations including disruption, complexity, ambiguity, and uncertainty. These impacts affect the place and its workforce, especially on human resource policies and practices.

The pandemic has increased the intensity of work-from-home (WFH), the number of resignations, employee disengagement and job dissatisfaction, stress levels of workers, and challenges in the recruitment process (Tessema et al., 2024). Post-pandemic changes have become more complex, HR personnel are required to be proactive change agents to transform and re-transfer HRM philosophy, climate, structure, systems, skills, policies and practices. Human Resources is no longer an administrative function, but a strategic partner in decision-making in the new normal. Thus, the post-pandemic era is a challenge of change for the new HR system; business continuity; digital platforms; work-life balance; technology and digital skills; job satisfaction; etc (Singh et al., 2024). Compared to previous studies, most of them focused on the impact of factors towards employee engagement and factor analysis using regression and SEM-PLS. As for this research has interesting novelties to study, which are, this research uses engagement factors that are aligned with factors those already used by the company based on Gallup; the object of this research is one of the leading private insurance companies in Indonesia; this research examines a fairly large number of factors which are 11 factors with 92 indicators; and this research produces new factors that do not appear in previous studies. This research contributes to theoretical development and insights in the field of employment, human resources, or human capital, particularly related to employee engagement; contributes practically to managers to improve employee engagement; and contribute academically to the enrichment of literature related to employee engagement.

Hypothesis Development

Relationship between Each Factors and Employee Engagement

An organization is a social unit consisting of individuals who interact in a structured and organized manner, where each member has their own role to achieve a common goal (Tanjung et al., 2022). Organizational policies serve as the structural foundation on which employee engagement is built. Poorly designed policies can lead to disengagement, creating a disconnect between organizational goals and employee aspirations (Narmadha & Vinayagam, 2024). Based on previous research, Narmadha and Vinayagam (2024) showed that organizational policies have a significant impact on employee engagement. Facilities are infrastructure facilities provided by the company to support or support employees in completing their tasks effectively, efficiently, and comfortably (Sihombing et al., 2024). According to Cipta and Hwihanus (2024) facilities include the physical environment and resources provided by the company to support employees in completing their tasks (Cipta & Hwihanus, 2024). Based on previous research, Mulyadi et al. (2020) and Oktanofa et al. (2020) show that equipment is one of the things that affects employee engagement. Meanwhile, Oktanofa et al. (2020) show that equipment is one of the drivers of basic needs that influence. This equipment refers to the availability of equipment or tools from the office to support employees' tasks.

Recognition is something that includes appreciation and appreciation to employees for their contribution in achieving company goals. By providing recognition, companies can manage and create an environment that provides satisfaction and enthusiasm for work (Jaya et al., 2024). Zurriyati & Mudjiran (2021) quoted Anne Ahira (2003) who stated that contribution means participation, involvement, involvement or contribution. Contributions can be in the form of materials or actions (Zurriyati & Mudjiran, 2021). Based on previous research, Sipayung (2024) showed that recognition significantly affects the level of employee engagement. Meanwhile, Prasilowati et al. (2021) showed that there is a direct correlation between employee contribution and employee engagement. Rewards include all types of rewards given to employees. Rewards are divided into two groups, namely extrinsic rewards which include promotions, salaries, vacations, and bonuses and intrinsic rewards which include trust, recognition, feelings of self-worth, justice, social status, creativity, and personal development (Jaya et al., 2024; Luturmas et al., 2022). Remuneration is

the salary that employees receive in return for work performed or services rendered. Remuneration includes any type of payment or compensation that can retain and motivate employees such as basic salary, income, bonuses, incentives, allowances, health insurance, pensions, travel expenses, overtime pay, and others (Owusu et al., 2023).

Appropriate, fair, and competitive compensation can motivate employees to give their best contribution, as they feel valued and cared for, thereby encouraging greater engagement (Arvianto & Putri, 2025; Owusu et al., 2023). In conclusion, the rewards & remuneration factor includes rewarding employees for the contributions they have made. Sipayung (2024) shows that rewards significantly affect the level of employee engagement. Phuong et al. (2024) show that salary has a positive impact on employee engagement. Meanwhile, Oktanofa et al. (2020) found that rewards are among the drivers with the lowest points. The work environment plays an important role in the factors that lead to employee engagement. Employees who work in a pleasant work environment, where all members are equally involved, show better engagement (Saleem et al., 2020). The work environment is divided into two, namely the physical work environment and the social work environment (Gunawan et al., 2019). A conducive work environment will provide a sense of security and encourage employees to work optimally (Yushro et al., 2022). Based on previous research, Rahmawati (2021) shows that the work environment simultaneously has a positive and significant effect on employee engagement. Sentoso & Kelly (2021) show that the work environment does not have a significant relationship with employee engagement.

Employee development and employee engagement are closely interrelated in terms of improving employee resources, skills, and performance (Kwon et al., 2024). Meanwhile, organizational learning is defined as a set of organizational values, processes, and systems that support and facilitate learning at the individual and organizational levels. Continuous employee learning and development has become crucial in the fast-changing world of work where organizations strive to remain competitive and adaptive (Nuraini, 2024). Based on previous research, Mon et al. (2021) show that training and development has a positive and significant effect on employee engagement. Nguyen & Pham (2020) show that learning & development has a small impact on employee engagement. Teamwork through member empowerment aims to foster the desire to participate in the decision-making process, thus fostering a sense of ownership and commitment (Narmadha & Vinayagam, 2024). Also friendship in the workplace is very important to increase employee engagement. Friendship between coworkers creates an atmosphere of caring, cooperation, concern, and trust, which in turn helps everyone do their jobs better (Ghosh, 2021). Based on previous research, Narmadha and Vinayagam (2024) show that teamwork has a significant impact on employee engagement. Meanwhile, Hasnaputri & Silvianita (2020) found that teamwork is the employee engagement factor with the smallest factor loading, meaning that this factor has a less significant contribution than the others. One factor that can influence employee engagement is the leadership style used in the organization (Antika et al., 2024).

Leadership styles that are grounded in vision, emotional intelligence, and authenticity significantly contribute to the development of a work environment where employees feel motivated, connected, and engaged in their roles (Narmadha & Vinayagam, 2024). Leaders have a role in encouraging and sustaining engagement among their team members by providing meaningful work, individual value, and building a positive environment. As for further encouraging team engagement, there are several key skills that leaders need including communicating with empathy, building trust, coaching for growth, recognition, and supporting well-being (Rhyne & Neal, 2024). Based on previous research, Sentoso & Kelly (2021) show that leadership has a significant positive relationship with employee engagement. Meanwhile, Nguyen & Pham (2020) show that leadership does not contribute significantly to increasing employee engagement. A career path is the journey one takes in professional development, including promotions, job rotations, and skill upgrades. A clear and well-structured career path can motivate employees to achieve their goals and make greater contributions to the organization. A clear career path can increase employee morale and loyalty (Setiyarti et al., 2024). Career paths can be driven by talent mobility in the form of job rotation and promotion (Agustian & Rachmawati, 2021). Based on previous research, Setiyarti et al. (2024) showed that career path affects the increase in employee engagement.

Meanwhile, Kavya (2024) and Partadireja & Meilani (2023) show that job enrichment, job rotation practice, perception of promotion opportunities have a positive influence on employee engagement. Work Life Balance (WLB) refers to an individual's ability to divide time and energy in a balanced way between professional and personal life. Good WLB improves mental and physical health, and increases employee happiness and productivity (Sawitri, 2024). Organizations that enforce work-life balance policies will have more positive employee engagement (Rebecca et al., 2020). Based on previous research, Rebecca et al., (2020) revealed that work life balance affects employee engagement positively and significantly. Nguyen & Pham (2020), found a positive and significant relationship between work life balance and employee engagement. Employee advocacy is the intentional promotion of a company by its employees. In the context of employee engagement, advocacy refers to the extent to which employees become active and positive advocates for their organization. By valuing its employees, encouraging their engagement, and embracing their personal growth, an organization can create advocates (Cole, 2021). Employee loyalty is a feeling of attachment of employees to the company where they work. Employee engagement is closely related to loyalty (Syahrizal et al., 2019). Based on previous research, Thelen (2020) shows that advocacy affects employee engagement. Meanwhile, Khodakarami & Dirani (2020) show that employee loyalty is one of the antecedents and has a positive relationship with employee engagement.

Based on the evidence of previous research that shows the relationship between the eleven factors and employee engagement, the following conceptual framework is made:

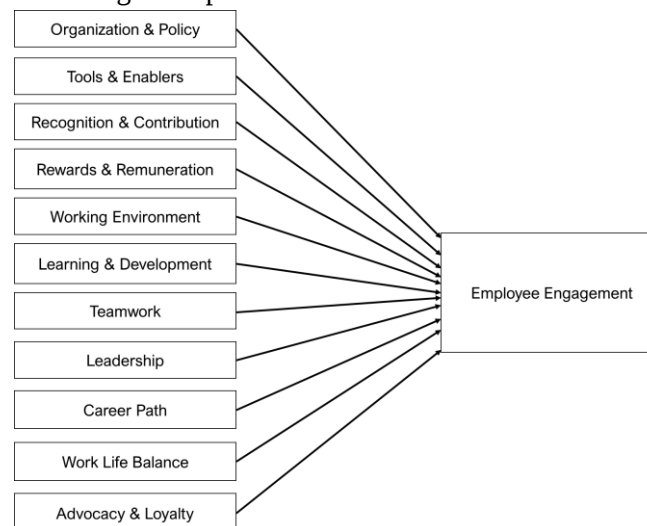


Fig 1. Conceptual Framework

Based on the conceptual framework above and the purpose of this research, then the hypothesis is as follows:

H0 : The proposed model fits the data and there are new factors formed.

H1 : The proposed model does not fit the data and no new factors are formed.

II. METHODS

This research is a quantitative study that uses primary data collection methods in the form of a questionnaire as an instrument. The questionnaire was addressed to employees of PT XYZ through an online google form by filling in using a Likert scale of 1 to 5, where 1 means strongly disagree and 5 means strongly agree. The target respondents needed are 280 respondents from a total population of 937 employees (as of October 2024). This figure is determined based on sample calculations using the Taro Yamane (1967) method as follows where n is the number of samples, N is the population, and d is the specified precision (5%). In this study, sampling was carried out using non probability sampling techniques through convenience sampling. Non probability sampling is a sampling technique that does not give equal opportunity or chance to every element (member) of the population to be selected as a member of the sample (Hasmanto et al., 2022). In addition, the type of convenience sampling used has a definition as taking sample based on respondent availability and accessibility (Sukwika, 2023).

After determining the sample size and distributing questionnaires, 312 respondents participated in filling out the employee engagement survey form for the needs of this research. The collected data was then processed and tested using statistical tools, namely SPSS and SPSS Amos. Then descriptive statistical analysis, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA) were carried out on the results of the data testing. The stages of exploratory factor analysis (EFA) include the preparation of a correlation matrix, factor extraction, and factor rotation (Wardani, 2023). The exploratory factor analysis was conducted on 11 factors, namely Organization & Policy, Tools & Enablers, Recognition & Contribution, Rewards & Remuneration, Working Environment, Learning & Development, Teamwork, Leadership, Career Path, Work-Life Balance, and Advocacy & Loyalty. While the stages of confirmatory factor analysis (CFA) include testing the relationship or correlation between variables, testing the feasibility of the instrument, and testing the fit of the model (Wardani, 2023). The confirmatory factor analysis was conducted on factors derived from the results of exploratory factor analysis.

III. RESULT AND DISCUSSION

Result of Exploratory Factor Analysis

The EFA procedure was conducted using the Principal Component Analysis (PCA) method with oblimin rotation on 92 items measuring employee engagement based on 11 defined factors, namely organization & policy, tools & enablers, recognition & contribution, rewards & remuneration, working environment, learning & development, teamwork, leadership, career path, work-life balance, and advocacy & loyalty. This analysis is carried out to reduce data from the initial variables to new variables or factors that are smaller than the initial number. The initial stage of EFA begins by looking at the correlation matrix. First, the determinant value obtained from the inter-indicator correlation matrix results is 2.71E-065 (2.71×10^{-65}) which is below 0.5 and even close to 0. This result shows that the inter-indicator matrix correlation value is high.

Too high a correlation can create strong multicollinearity. According to Wardani (2023) a high correlation between indicators indicates that these indicators can be grouped into an indicator that is homogeneous so that each indicator is able to form a common factor or construct factor in other words the correlation matrix between indicators is interrelated. Second, the Anti-Image Matrices value of the 92 items has a magnitude above 0.5. According to Wardani (2023) if the MSA value is > 0.5 then all items used in this study are suitable for factor analysis. Third, the table below shows the KMO value obtained is 0.854 and the Bartlett's Test value is 0.000. This means that the data obtained is feasible and there is a significant correlation between the items used. In addition, according to Wardani (2023), in general, factor analysis can be carried out if $KMO > 0.5$ and Bartlett's Test < 0.05 . Based on this, it is stated that factor analysis can be continued.

Table 1. KMO and Bartlett's Test Values

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.854
Bartlett's Test of Sphericity (sig.)	Approx. Chi- square	41553.925
	df	4186
	Sig.	.000

Furthermore, the results of factor extraction can be seen based on the total variance explained table. In this study, there were 13 factors that were processed. According to Wardani (2023), in general, the number of factors that must be taken is seen based on the eigenvalue which is greater than 1. When cumulated, the 13 factors are able to explain 77.299% of the total variance. This shows that the factors formed have managed to represent most of the information from the initial variables quite well. Thus, the 13 factors can be used for further analysis.

Table 2. Total Variance Explained

Component	Initial Eigenvalue			Extraction Sums of Squared Loadings		
	Total	% Variance	Cumulative %	Total	% Variance	Cumulative %
1	40.208	43.704	43.704	40.208	43.704	43.704
2	7.217	7.844	51.548	7.217	7.844	51.548
3	5.029	5.466	57.014	5.029	5.466	57.014

4	3.890	4.228	61.242	3.890	4.228	61.242
5	2.734	2.971	64.214	2.734	2.971	64.214
6	2.455	2.668	66.882	2.455	2.668	66.882
7	2.005	2.179	69.061	2.005	2.179	69.061
8	1.554	1.689	70.750	1.554	1.689	70.750
9	1.517	1.649	72.399	1.517	1.649	72.399
10	1.233	1.340	73.739	1.233	1.340	73.739
11	1.154	1.255	74.993	1.154	1.255	74.993
12	1.079	1.173	76.166	1.079	1.173	76.166
13	1.043	1.134	77.299	1.043	1.134	77.299

The last stage in EFA is factor rotation. The oblimin rotation operation shows the distribution of items on the employee engagement. Based on the results, the factor elimination process is carried out. From the results obtained, 5 factors have been eliminated or eliminated because these factors do not have supporting items. Very few items (weak/unstable factors) will give poor results if continued at the confirmatory factor analysis stage. Therefore, the final number of factors formed is 7 factors with the following names:

Table 3. Seven Constructed Factors

Factor	Factor Name
X1	Personal Growth & Work Life Balance
X2	Work & Organizational Support
X3	Work Environment
X4	Career Growth & Development
X5	Agile & Smart Workplace
X6	Leadership
X7	Employee Advocacy

Result of Confirmatory Factor Analysis

After the process of distributing questionnaires to 312 employees of PT XYZ and the results of exploratory factor analysis, the next stage is CFA factor analysis to confirm the feasibility and fit of the model. In this study, model feasibility was identified based on Cronbach's alpha, construct reliability (CR) and average variance extracted (AVE) values. While the model fit is identified based on the p value, chi-squared test (X2), NFI, CFI, RFI, TLI, and RMSEA.

Based on research by Costa & Sarmiento (2019), internal consistency rules generally have a cut off point of alpha value > 0.7 . In line with Wardani (2023) who explains that it is declared reliable if the alpha-cronbach is more than 0.70. Meanwhile, if $\alpha < 0.50$ then reliability is considered low. Referring to the same research, the amount of alpha is included in the good category if it is in the range 0.80 - 0.89 and can be said to be very good if it is in the range 0.90 - 1. The table below shows the Cronbach alpha value of the 7 factors formed which indicates that all factors are declared to have good reliability and internal consistency.

Table 4. Cronbach's Alpha Value

Factor	Alpha	Conclusion
X1	.98	Excellent
X2	.95	Excellent
X3	.91	Excellent
X4	.95	Excellent
X5	.86	Good
X6	.97	Excellent
X7	.92	Excellent

Furthermore, Pei-Boon et al. (2020) cited Fornell & Larcker (1981) that a CR value greater than 0.70 is considered good construct reliability. Meanwhile, an AVE value greater than 0.50 would be evidence of convergent validity (Pei-Boon et al., 2020). According to Hair et al., (2017) the CR value below 0.60 indicates a lack of internal consistency reliability. Meanwhile, an AVE value of 0.50 or higher indicates that the average construct explains more than half of the variance of its indicators. Conversely, when the AVE is less than 0.50 indicates that, more variance is left in item errors than the variance explained by the construct (Hair et al., 2017). The table below shows the CR & AVE values of the 7 factors formed which indicates that the constructs of all factors formed are valid and the number of factors (or constructs) and variable loads (indicators) observed are confirmed in accordance with what is expected based on theory.

Table 5. CR & AVE Value

Factor	CR	AVE	Conclusion
X1	.97	.79	Reliable & Valid
X2	.95	.58	Reliable & Valid
X3	.92	.61	Reliable & Valid
X4	.96	.75	Reliable & Valid
X5	.86	.62	Reliable & Valid
X6	.97	.81	Reliable & Valid
X7	.92	.74	Reliable & Valid

The last stage of the CFA analysis is to identify the quality of model adjustment or model fit of all the constructs formed. Preliminary results show that these values are not good enough to produce model values that do not fit. The method used to improve the quality of the construct is to modify the index using the covariance value recommended by Amos. The covariance values will be correlated or connected with the draw covariances tool (double headed arrows). The process will reduce the quality of model adjustment value and make the model more perfect (no covariance remains). The following is the result of the modification process that is more better:

Table 6. Chi-Squared Value of Each Factor Before and After Modification

Factor	Before Modification	After Modification
X1	772.403	29.779
X2	467.367	48.458
X3	153.056	6.700
X4	370.561	2.826
X5	30.693	.881
X6	336.742	23.641
X7	83.083	.000

Next according to Fauziah et al. (2021) and Costa & Sarmento (2019) research, a p-value of ≥ 0.05 indicates good fit. The table below shows that six of the seven factors have a p-value greater than or equal to 0.50. This means that the six factors are interpreted as having a fit model. Whereas X1 has a p-value that is less than this standard so that the Factor X1 model is declared not statistically fit. However, if the other fit indices show fit values, then the model is still acceptable.

Table 7. p-value of Each Factor

Factor	p-value	Conclusion
X1	.005	Model Does Not Fit
X2	.454	Model Fit
X3	.153	Model Fit
X4	.727	Model Fit
X5	.348	Model Fit
X6	.051	Model Fit
X7	.990	Model Fit

As a benchmark, Fauziah et al.'s (2021) and Costa & Sarmento's (2019) established several points on their research that NFI indicates model fit when the value ≥ 0.95 , CFI indicates model fit when the value ≥ 0.95 , RFI indicates model fit when the value ≥ 0.90 , TLI indicates model fit when the value ≥ 0.95 , and RMSEA indicates model fit when the value ≤ 0.80 . The table below shows that the seven factors are having a model fit or a good fit.

Table 8. NFI, CFI, RFI, TLI & RMSEA Value of Each Factor

Factor	NFI	CFI	RFI	TLI	RMSEA	Conclusion
X1	.994	.997	.979	.988	.064	Model Fit
X2	.985	1.000	.972	1.000	.006	Model Fit
X3	.995	.998	.976	.990	.047	Model Fit
X4	.999	1.000	.995	1.004	.000	Model Fit
X5	.999	1.000	.992	1.001	.000	Model Fit
X6	.994	.998	.984	.994	.047	Model Fit
X7	1.000	1.000	1.000	1.004	.000	Model Fit

After carrying out the modification process, it can be seen that the loading factor of each item has a magnitude of more than 0.50. Referring to the standard loading factor in Purba (2019) and Putri & Febrilia (2024) research, variables can be accepted if they have a loading factor value > 0.5 . This means that all the results obtained indicate that the factors are perfectly formed so that they can be accepted.

Table 9. Loading Factor of Each Constructed Factors After The Modification

	Factor	Item	LF
X1	Personal Growth & Work Life Balance	X6.1	.77
		X10.1	.85
		X10.2	.89
		X10.3	.95
		X10.4	.92
		X10.5	.93
		X10.6	.81
		X10.7	.97
		X10.9	.85
		X10.10	.93
X2	Work & Organizational Support	X2.1	.61
		X2.2	.68
		X3.4	.79
		X3.5	.78
		X5.10	.79
		X6.2	.78
		X6.3	.76
		X6.4	.71
		X7.1	.80
		X7.2	.74
		X7.3	.74
		X7.5	.78
		X7.6	.76
X3	Work Environment	X9.4	.78
		X5.1	.85
		X5.2	.88
		X5.8	.78
		X6.6	.70
		X8.1	.70
		X8.3	.80
		X9.9	.68
X4	Career Growth & Development	X4.6	.80
		X9.1	.81
		X9.2	.83
		X9.3	.85
		X9.5	.94
		X9.6	.93
X5	Agile & Smart Workplace	X9.10	.93
		X1.3	.78
		X2.3	.68
		X2.4	.65
X6	Leadership	X2.5	.95
		X8.2	.82
		X8.4	.89
		X8.5	.85
		X8.6	.91
		X8.7	.90
		X8.8	.93
		X8.9	.92
		X8.10	.90
		X8.11	.93
X7	Employee Advocacy	X11.1	.99
		X11.2	.98
		X11.3	.65
		X11.4	.76

Result of PT XYZ Employee Engagement Construct and Final Model

The following is the construct based on the average of the forming factors. In the process, index modification is carried out until the results of factor loading and quality of model adjustment or model fit become more perfect. In the figure below, it can be seen that the Personal Growth & Work Life Balance is the largest factor loading with 0.87. Factor loading is the correlation between the original variable and its factors, and is key to understanding the nature of a particular factor (Hair et al., 2019). It can therefore be concluded that the greater the factor loading, the higher or stronger the correlation between the variable (indicator) and its latent factor. In other words, the variable contributes significantly to explaining the factor. Based on that, it can be concluded that, Personal Growth & Work Life Balance has a stronger correlation than other factors or that factor strongly represents employee engagement at PT. XYZ.

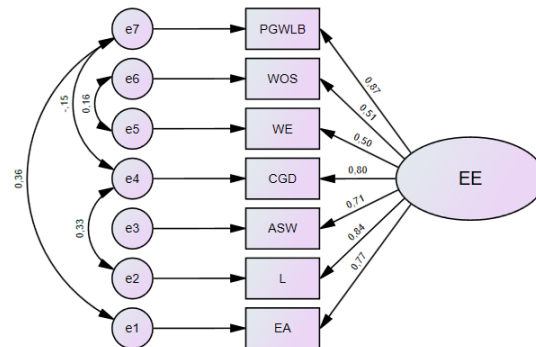


Fig 2. Construct of PT XYZ Employee Engagement

After conducting factor analysis using EFA and CFA, a final model of employee engagement at PT. XYZ was developed with the number and names of factors determined based on the results obtained, these include Personal Growth & Work-Life Balance, Work and Organizational Support, Work Environment, Career Growth and Development, Agile and Smart Workplaces, Leadership, and Employee Advocacy.

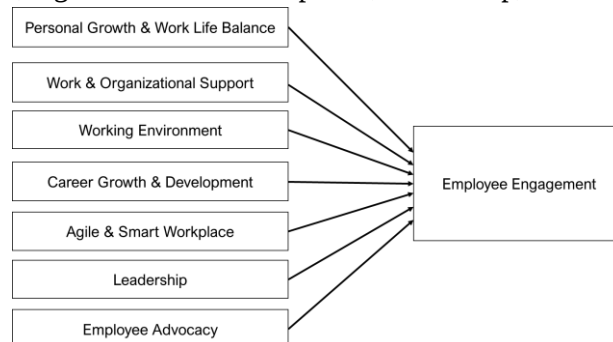


Fig. 3. Final Model of PT XYZ Employee Engagement

Discussion of Research Results with Gallup Elements

In developing the research instrument through a questionnaire, Q12 Gallup served as the main reference for the statements presented to respondents. A total of 12 Gallup statements were presented. However, after an exploratory process, the number of Gallup statements that rotated well was 9 statements. These nine statements had factor loadings above 0.5. Referring to the research by Purba (2019) and Putri & Febrilia (2024), it is stated that a variable can be accepted if the factor loading value is > 0.5 . This means that the other three Gallup statements are indicated to have a loading of less than 0.5, so these statements are invalid and not well rotated.

Table 10. Loading Factors for Each Gallup Statement

Item	Gallup's Statement	Elements of Fallup	Loading Factor
X1.6	I know what is expected of me at work.	<i>Knowing What's Expected</i>	-
X2.1	I have the materials and equipment I need to do my work right.	<i>Tools & Enablers</i>	.638
X3.4	At work, I have the opportunity to do what I do best every day.	<i>Doing What You Do Best</i>	.671

X4.4	In the last seven days, I have received recognition or praise for doing good work.	<i>Receiving Recognition</i>	-
X5.1	My supervisor, or someone at work, seems to care about me as a person.	<i>Someone Caring at Work</i>	.897
X6.1	There is someone at work who encourages my development.	<i>Someone Encouraging Development</i>	.518
X7.1	At work, my opinions seem to count.	<i>Commitment to Quality Work</i>	.702
X7.3	The mission or purpose of my company makes me feel my job is important.	<i>Mission/Purpose</i>	.617
X7.5	My associates or fellow employees are committed to doing quality work.	<i>Opinions Counting at Work</i>	.738
X7.8	I have a best friend at work.	<i>Best Friend at Work</i>	-
X8.1	In the last six months, someone at work has talked to me about my progress.	<i>Talking About Progress</i>	.689
X9.9	This last year, I have had opportunities at work to learn and grow.	<i>Learning and Growing</i>	.577

Based on the table above, it is known that three of the twelve Gallup elements did not appear after going through the rotation process. These elements do not have a strong enough loading to make them valid. In other words, these elements have no influence on any of the engagement factors formed. These three elements are Knowing What's Expected, Receiving Recognition, and Best Friend at Work. This finding indicates that most of the Gallup elements support employee engagement at PT. XYZ.

Discussion of Research Results with Previous Research

First, in their research, Nguyen & Pham (2020) and Rebecca et al., (2020) stated that work life balance has a positive and significant impact on employee engagement while Oktanofa et al., (2020) obtained the result that work life balance became one of the lowest engagement drivers. Nguyen & Pham (2020) stated that the biggest reason employees stay engaged is not career growth but personal growth. In contrast to previous research, this study sets Personal Growth & Work Life Balance into one factor. This factor has the largest loading, which is 0.87, which means it has the strongest contribution to employee engagement of PT XYZ. These findings support the results obtained by Nguyen & Pham (2020) and Rebecca et al., (2020) in terms of their influence on employee engagement. However, these findings do not support the results obtained by Oktanofa et al., (2020) because in this study, this factor was the factor with the highest loading and represented employee engagement at PT. XYZ.

Second, in their research, Abdullահrahman et al., (2024) analyzed employee engagement factors that can increase employee job satisfaction, one of which is perceived organizational support. Beside, POS makes employees believe that the organization values their contributions and cares about their well-being, which makes them more committed to their work (Winarno et al., 2021). Meanwhile, Partadireja & Meilani (2023) found that perceived organizational support has a positive and significant influence on employee engagement. In contrast to previous research, in this study the factor is designated by the name Work & Organizational Support. This factor is one of the factors with the lowest loading, which is 0.51. This means that the factor is not enough to provide a positive contribution, in other words, the employees of PT XYZ feel that the company has not fulfilled their needs and the lack of support provided. These findings support the statements made by Abdullահrahman et al. (2024), Asif & Rathore (2020), and Nautwima & Asa (2022) regarding the concept of support provided by companies to employees to meet their needs while working. However, this finding does not support the results obtained by Partadireja & Meilani (2023) because in this study, the results of that factor were not significant.

Third, in their research, Abdullահrahman et al. (2024) analyzed the factors of employee engagement that can increase employee job satisfaction, one of which is the working environment. Employees are more likely to be enthusiastic about their tasks when they feel valued and safe at work (Cascio, 2019). Gunawan et al. (2019) found that the work environment has a positive impact on employee engagement. Every improvement in the work environment leads to increased employee engagement. In other words, the work environment has a fairly strong correlation with employee engagement. Unlike previous studies, in this study, the working environment was one of the factors with the lowest loading, at 0.50. This means that the

factor does not contribute sufficiently positively, meaning that employees of PT. XYZ feel that they are not yet sufficiently satisfied with the company's work environment. This finding supports the statements of Abdullahrahman et al. (2024) and Cascio (2019) regarding the concept of a work environment created by the company for its employees, enabling them to feel safe and comfortable while working. However, this finding does not fully support the results obtained by Gunawan et al. (2019), as in their study, this factor was the one with the weakest contribution.

Fourth, in his research, Sipayung (2024) found that statistically rewards and recognition have a significant influence on employee engagement. However, Abdullahrahman et al. (2024) found that as one of the engagement factors that affect satisfaction, rewards are not very significant. In addition, Sadilla & Wahyuningtyas (2023) show that there is a positive and significant influence of the recognition variable on employee engagement. Meanwhile, Nguyen & Pham (2020) found that recognition does not have a positive impact on employee engagement. In contrast to previous research, this study sets Career Growth & Development into one factor. This factor not only focuses on the rewards and recognition that employees get but the career growth of employees while working at the company. This factor is one of the key drivers of PT XYZ employee engagement with a loading of 0.80. It has a strong contribution. This proves that this findings supports the results obtained by Sipayung (2024) and Sadilla & Wahyuningtyas (2023). However, this finding does not align with the results obtained by Abdullahrahman et al. (2024) and Nguyen & Pham (2020) because in this study, the factor was identified as one of the factors with a strong contribution.

Fifth, from the review of previous research, there are no studies that examine or produce Agile & Smart Workplace factors as outputs. This is the newest finding compared to previous studies. This factor shows that the company, PT XYZ, is an agile company to changes in the business environment and is able to create a smart workplace with the practice of utilizing technology and digitalization. As for this study, Agile & Smart Workplace has a moderate loading amount, which is 0.71, this means that this factor is strong enough to influence employee engagement at PT. XYZ.

Sixth, in their research, Narmadha & Vinayagam (2024) found that leadership makes a statistically significant contribution to employee engagement. Meanwhile, Nguyen & Pham (2020) state that leadership does not contribute significantly to increasing employee engagement and only plays a role as a facilitating factor. Meanwhile, Hasnaputri and Silvianita (2020) stated that leadership is included in supportive engagement which is the most dominant factor that shapes employee engagement. Based on the results obtained, in this study leadership has a strong contribution directly to engagement and is one of the key drivers of employee engagement at PT XYZ with a loading of 0.84. These findings support the results obtained by Narmadha & Vinayagam (2024) in terms of their influence on employee engagement. However, these findings do not support the results obtained by Nguyen & Pham (2020) and Hasnaputri & Silvianita (2020) because in this study, these factors made a strong contribution but were not the most dominant factors.

Last, in his research, Thelen (2020) stated that advocacy behavior affects and increases employee engagement. Based on the results obtained, in this study employee advocacy has a moderate loading amount, which is 0.77, this means that this factor has a significant influence on employee engagement at PT. XYZ. These findings support Thelen's (2020) statement regarding its influence on employee engagement.

IV. CONCLUSION

Based on the results of exploratory factor analysis (EFA), seven factors were identified, including Personal Growth & Work-Life Balance, Work & Organizational Support, Working Environment, Career Growth & Development, Agile & Smart Workplace, Leadership, and Employee Advocacy. The Agile & Smart Workplace factor is a new finding that was not previously identified in previous studies, even in the factors or aspects used by PT. XYZ, namely Agile & Smart Workplace. Additionally, among the engagement theories used, there is no theory that reinforces or explains Agile & Smart Workplace as one of the drivers or elements influencing employee engagement. This making an innovative scientific contribution from this study. The emergence of this factor reflects that PT. XYZ is an agile company in responding to changes in the business environment and is capable of creating a smart workplace through the implementation of technology and digitalization practices.

Based on confirmatory factor analysis, the quality of model adjustment values, including the Chi-Squared Test, NFI, CFI, RFI, TLI, and RMSEA, yielded the constructs of each factor and the engagement model constructs of PT. XYZ meet the standards for model quality adjustment, resulting in an appropriate model fit. This demonstrates that the empirical data obtained align with the theory and conceptual model used in this study. Among the seven factors identified, the factor representing employee engagement at PT. XYZ is Personal Growth & Work Life Balance, which has the strongest correlation or relationship and can therefore represent its latent factor (employee engagement).

In other words, the results supports the H0 hypothesis, which states that the proposed model fits the data and that a new factor has been formed. This means that H0 is accepted and H1 is rejected. This is in line with the conclusion of the research results, which show a model fit and the emergence of a new factor.

V. ACKNOWLEDGMENTS

The authors would like to thank the anonymous editors and reviewers for their useful comments, which allowed to increase the value of this article. We would like to thank the School of Economics and Business, Telkom University, for their technical support and all the contributors who helped in this study. The author would like to express her gratitude to Dr. Nidya Dudija, S.Psi., M.A. for her valuable comments of the draft version of this paper and her inspiration to further research study.

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