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Effects of employee engagement on organizational performance: case of public universities in Ethiopia

Dawit Udessa Gede^{1*} and Admassu Tesso Huluka²

Abstract

The objective of this research is to examine the impact of Employee Engagement on Organizational Performance within Public Universities in Ethiopia. It aims to explore the relationship between employee engagement and the overall performance of these institutions, specifically focusing on public universities. By providing significant insights and recommendations, this research will contribute towards the development of strategies that can enhance employee engagement and improve the overall performance of Ethiopian public universities. The study utilized both quantitative and qualitative approaches, employing descriptive and explanatory research designs. To gather data, three Ethiopian universities were selected based on their establishment date, and a random selection technique was used to include 365 personnel in the sample. Descriptive statistical tools like mean and standard deviation were employed, while structural equation models were utilized for confirmatory factor analysis and path analysis. The study's findings indicate that vigor, dedication, and absorption all have a significant and favorable impact on organizational performance in higher education. The study findings also indicate that the performance of study institutions differs based on the extent of employee involvement. This research introduces a fresh perspective of the relationship between employee engagement and organizational performance by concentrating specifically on the context of public universities in Ethiopia. This sheds light on the distinctive dynamics and obstacles encountered by these institutions. Furthermore, the study adds to the current body of knowledge by exploring the relationship between employee engagement and organizational performance, offering valuable insights and suggestions to enhance performance in the setting of Ethiopian public universities.

Keywords Absorption, Dedication, Effects, Engagement, Performance, Vigor

Introduction

In today's rapidly evolving business landscape, organizations are increasingly recognizing the pivotal role that employee engagement plays in driving sustainable success and achieving competitive advantage [45]. Employee

engagement refers to the emotional commitment and active involvement of employees towards their work, organization, and its goals, while organizational performance represents the overall effectiveness, productivity, and success of the organization [50]. For this research, the concept of employee engagement pertains to the emotional and psychological bond that exists between an employee and their work, organization, as well as its objectives. On the other hand, organizational performance measures the extent to which an organization successfully attains its intended goals and desired outcomes. Over the past decades, extensive research has been conducted to understand the dynamics of employee

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engagement and its impact on organizational outcomes. Zada and Ismael [58] concluded that organizations with highly engaged employees tend to experience lower turnover rates, reduced absenteeism, and enhanced employee retention. They suggested further that Engaged employees are more likely to be motivated, satisfied, and committed to their work, resulting in increased loyalty towards the organization. According to Kurniawati and Raharja [21] higher levels of employee engagement are associated with improved customer satisfaction and loyalty, as engaged employees are more likely to deliver exceptional customer service and foster strong customer relationships. There is evidence to suggest that engaged employees are more innovative, creative, and willing to go above and beyond their job requirements, leading to higher levels of productivity and organizational performance [22, 23]. Despite the wealth of existing research, there are still gaps in our understanding of employee engagement and its consequences for organizational performance. To address these gaps, further exploration of the underlying mechanisms and specific impacts is necessary. This will enable organizations to develop tailored strategies and create an environment that fosters engagement, ultimately leading to improved performance outcomes.

Extensive studies have been conducted to investigate the relationship between employee engagement and the overall performance of organizations [14, 21, 22]. However, there are still several gaps and areas that require further investigation. According to Lemon and Macklin [39], the process of establishing a causal link between employee engagement and organizational performance is intricate and influenced by various contextual elements specific to different institutions. These factors have often been overlooked or neglected in previous studies [8] which can be termed as contextual or situational gaps. The relationship between engagement and performance can vary across industries, organizations, and contexts [3]. Factors such as organizational culture, leadership style, job characteristics, and industry dynamics can influence the strength and direction of this relationship [10]. Consequently, a standardized relationship may not uniformly apply to all organizational settings [1, 15]. Moreover, while research suggests a positive association between employee engagement and organizational performance, it is challenging to determine whether engagement leads to performance improvements or if high-performing employees are more likely to be engaged [44]. Other factors, such as job satisfaction, motivation, and organizational support, can also influence both engagement and performance [26]. There are also geographical and population gaps in developing countries like Ethiopia where no sufficient investigation has been

undertaken about employee engagement level and effects on organizational performance [36]. Almost all empirical evidences about employee engagement and effects from western and from industry developed countries. In Ethiopia, even though different scholars attempted to study about employee engagement and effects on organizational performance [13, 16, 17, 30, 52]. Rate of engaged employees have not been yet explored and identified. But there is only study conducted by Yallew [57] on higher education in Ethiopia recent development and challenges. The author found out that low level of motivation and engagement of academic staff in Ethiopian universities. As a consequence of the situation, academic staff in university tends to migrate to other sectors of the economy for the search of better opportunities and working condition [57]. The focus of that study is only on identification of reason for disengagement of higher educational staff. It not included in turn effects on organizational performance.

Moreover, the evidences from Ethiopian higher educational institutions show that government aspiration to increase the quality of the overall system through quality enhancement of graduates and research output backed by different guidelines and rules, loosen lecturer engagement [5, 23]. Specifically, guidelines during Covid-19 pandemic affects educational delivery system and forced it to online and distance learning, which in turn negatively affects engagement level of the lecturers. Top challenging issue of online teaching is decline in lecturer moral that lead to low engagement level as the consequences of covid-19 pandemic [53].

Hence, this study was to provide fresh contextual understanding within the field of management literature specifically related to Ethiopian higher educational institutions, where such evidence has not yet been documented. The main focus of this research was to employ a combination of condensed viewpoints derived from various theories in order to address and bridge the current gaps in knowledge. Specifically, the theories employed include the Job Demands-Resources Model, Self-Determination Theory, Job Characteristics Theory, and Kahn's Engagement Theory. These theoretical frameworks provide distinct and valuable understandings of the relationship between employee engagement and organizational performance [55]. They highlight the importance of job attributes, social interactions, psychological requirements, and positive emotional states in fostering engagement and improving performance results.

Therefore, the primary objective of this study was to examine the impact of employee engagement on the performance of Ethiopian public universities. It is worth noting that this particular area has been overlooked and lacks previous research on the subject matter. The outcomes of

this investigation hold great value for the field of management and theory as they shed light on employee engagement practices and their direct influence on the overall performance of universities in Ethiopia.

Literature review

Theoretical framework and hypothesis

Theoretical review

Theoretical perspectives and arguments were utilized to explore the association between employee engagement and organizational performance. Various theories, including the Job Demands-Resources Model, Self-Determination Theory, Job Characteristics Theory, and Kahn's Engagement Theory, were employed to examine the impact of employee engagement on organizational performance.

Job Demands-Resources Model This model suggests that engagement is influenced by job demands (such as workload and time pressure) and job resources (such as autonomy, social support, and opportunities for growth). Engaged employees perceive their job resources as sufficient to meet the demands, leading to positive outcomes such as increased job satisfaction, motivation, and performance [20, 33, 42]. According to the JD-R model, work engagement is shaped by the equilibrium achieved between the demands and resources present in a job [42]. This equilibrium ultimately manifests as vigor, dedication, and absorption, which can be considered as dimensions of employee engagement [25].

The Self-Determination Theory (SDT) revolves around the inherent drive and psychological requirements of individuals [5]. When it comes to involvement, SDT proposes that the levels of devotion and engagement can be understood through the fulfillment of psychological needs such as autonomy, competence, and relatedness [56]. If employees perceive a sense of independence in their work, feel skilled and accomplished, and enjoy positive social interactions and connections, they are more inclined to exhibit dedication and complete absorption in their assigned tasks [18].

Job Characteristics Theory This theory argues that certain job characteristics influence engagement and performance [2]. According to this theory view, key job characteristics include skill variety, task identity, task significance, autonomy, and feedback [37]. Engaged employees are more likely to experience meaningful and challenging work, leading to higher levels of performance and satisfaction [24]. The Job Characteristics Model places great emphasis on the significance of particular job characteristics in promoting employee engagement. Vigor, dedication, and absorption are regarded as the end results of meaningful and stimulating work [32].

According to this model, there are five essential job characteristics such as skill variety, task identity, task significance, autonomy, and feedback that have an impact on individuals' psychological states, ultimately influencing their level of engagement [2].

Kahn's Engagement Theory, developed by William A. Kahn, provides a comprehensive framework for understanding employee engagement [46]. According to Kahn, engagement is a psychological state that occurs when individuals bring their full selves, both physically and emotionally, to their work roles [29]. It goes beyond mere job satisfaction and involves a deep sense of connection, fulfillment, and involvement in one's work. Kahn, provides a framework for understanding employee engagement and its dimensions, including vigor, dedication, and absorption [19]. According to Kahn, employee engagement is a state of "psychological presence" in which individuals bring their full selves, both physically and cognitively, to their work roles. Within this theory, vigor, dedication, and absorption are key components of engagement [43]. These theories provide different perspectives on the underlying mechanisms and factors that contribute to vigor, dedication, and absorption within the broader context of employee engagement.

The theories reviewed here above are essentially provide a foundation for organizing knowledge, explaining phenomena, generating hypotheses, making predictions, integrating findings, and guiding practical applications of this research. From this theoretical basis that researchers enabled to formulate hypothesis. They help us to identify study variables, specify the expected relationships between them, and generate testable predictions.

Hypothesis

After reviewing the theoretical framework discussed above, we have formulated a set of study hypotheses to establish a clear focus and guide the design and analysis of our research. These hypotheses are as follows:

Hypothesis 1: Vigor exerts a statistically significant influence on organizational performance.

Hypothesis 2: Dedication exerts a statistically significant influence on organizational performance.

Hypothesis 3: Absorption exerts a statistically significant influence on organizational performance.

Empirical literature review

Several researchers have conducted extensive research on the impacts of employee engagement on organizational performance and have indicated a statistically significant positive correlation [11, 19, 31, 35, 47, 49]. However, the concept of engagement remains perplexing, and its

relationship with organizational performance is intricate and multifaceted.

Researchers have proposed that despite the intricate nature of the relationship between employee engagement and organizational performance, there are positive and substantial effects of employee engagement on performance. Gupta and Sharma [19] concluded in his study on impact of employee engagement on performance that when employees are engaged, they are more likely to be motivated, committed, and satisfied with their work, which can lead to several positive outcomes. He posit further that engaged employees are more focused, proactive, and willing to exert extra effort, leading to higher levels of productivity and efficiency. According to Ikon and Chika [31] research findings engaged employees are driven to achieve their goals and contribute to the organization's success. They suggested further that engaged employees are willing to go beyond their job descriptions, share ideas, and take risks, leading to improved problem-solving, process improvement, and innovation within the organization.

However, measuring and defining employee engagement can be a daunting task due to its intricate and multi-dimensional nature [12, 54]. Moreover, the relationship between engagement and performance can differ depending on the industry, organizations, and situations, which restricts the ability to apply findings universally [6]. Additionally, maintaining consistently high levels of employee engagement in the long run is challenging for companies. It is crucial to identify and overcome any potential obstacles or difficulties that may hinder the maintenance and improvement of engagement levels [48].

In a recent study exploring employee engagement, Lopez-Zafra et al. [40] uncovered significant benefits of enthusiasm and energy, commonly referred to as vigor, on organizational performance. Their research specifically examined the role of vigor at work as a mediator in this relationship. Additionally Corbeanu and Iliescu [8] conducted a separate investigation and similarly established the positive impact of vigor on organizational performance. Kurniawati and Raharja [21] conducted a comprehensive review of existing literature to investigate the various factors that affect the effect of employee engagement on the performance of organizations. Study aimed to gain insights into the relationship between employee engagement and organizational performance by thoroughly analyzing relevant research articles published in reputable journals between 2010 and 2022. The findings strongly indicated a substantial relationship between employee engagement and organizational performance, supported by a p value of less than 0.01. These results suggest that higher levels of employee engagement are

linked to enhanced organizational performance. Jaya and Ariyanto [32] conducted a study aiming to examine the impact of vigor, dedication, and absorption on the performance of employees at PT Garuda Indonesia Cargo. The findings of their research revealed that vigor, dedication, and absorption positively and significantly influence employee performance. However, it is important to acknowledge that this study has certain limitations. These limitations include a small sample size, limited context as it focused solely on the sector head office, and an undisclosed data collection period. To improve the reliability and applicability of the obtained results, it is recommended that future research be conducted using larger and more diverse samples. Additionally, employing longitudinal designs and considering additional variables would contribute to enhancing the strength and generalizability of the findings.

Methodology and materials

The study utilized both quantitative and qualitative research methodology with an explanatory design to explore the relationship between independent variables and dependent variables. A cross-sectional survey design was implemented for this purpose. The Ethiopian public universities were chosen for examination based on the assumption that they are relevant institutions for this study. Conducting thorough investigations to explore the impact of employee engagement on the performance of public universities in Ethiopia carries great importance. These institutions have the potential to serve as vital sources for skilled personnel, thereby playing a pivotal role in driving economic transformation and national development. This research is essential in order to enhance the overall effectiveness of these organizations, foster the well-being and satisfaction of employees, enhance student outcomes, contribute to the development of the nation, and provide valid information for making decisions based on evidence.

In order to select the universities to be included in the study, three public universities in Ethiopia were chosen based on their reputation and level of achievement. Among the universities in the south direction, Hawasa University was found to meet the criteria of being a first-generation university as well as a research university, and thus it was selected for the study. Similarly, Wolaita Sodo University meets the requirements of a second-generation and applied university and has been chosen accordingly. Moreover, Bule Hora University has been selected as a third-generation and comprehensive university. According to the human resource records of these three universities, the combined population of university staff amounts to 19,470 individuals, out of which 17,875 were specifically considered based

on their employment status. The target population for this study comprised permanent employees working at the sampled universities, excluding expatriate staff and temporary employees.

The instance being examined is a component of the chosen and analyzed target populations, which is done to make inferences about the overall population [38]. Due to the substantial size of the target population, it is recommended to utilize Cochran's [7] formula to determine the necessary sample size. To calculate the required sample size, the maximum variability is considered to be 50% ($p=0.5$), and a confidence level of 95% is chosen with a precision of $\pm 5\%$. The calculations for the sample size are as follows: $p=0.5$, thus $q=1-0.5=0.5$; $e=0.05$; $z=1.96$.

The given formula can be expressed as follows: $no = (z^2 pq)/e^2$, where no represents the sample size, z is the critical value chosen for the desired confidence level, p is the estimated proportion of a specific attribute present in the population, q is equal to 1 minus p , and e denotes the desired level of precision. By substituting the given values, we obtain: $no = ((1.96)^2 (0.5) (0.5))/(0.05)^2 = 384$.

According to Cochran, if the population is finite and the sample size exceeds 5% of the population (which is 894 in this case), a slight adjustment to the sample size is necessary. Cochran [7] proposed a correction formula to calculate the final sample size in such scenarios. The formula is as follows: $n = no / (1 + ((no - 1)/N))$, where n represents the adjusted sample size, N is the population size, and no is the initial sample size. Applying this formula, we find: $n = 384 / (1 + ((384 - 1)/17,875)) = 376$.

Finally, we have distributed the sample size of 376 among three universities using the probability proportion to size (PPS) method. A total of 376 individuals were chosen to represent a sample group from three different universities. The selection process ensured that the sample size from each university was proportional to the overall population of that university. To achieve this, the method of proportional quota sampling was employed, taking into consideration the four essential aspects of the universities: good governance, teaching and learning, research, and community services. In line with this approach, 25% of the sample quota was allocated to administrative staff, while the remaining 75% was assigned to academic staff. To randomly select the sample group from each university, a simple random sampling technique utilizing a random number table was implemented. This method ensured an equal opportunity for all university staff within their respective quota to be included in the sample group.

The data collection process involved using a 5-point Likert scale and open-ended questions. The utilization of a Likert scale is preferred due to its ability to minimize

the influence of respondents' opinions being solely based on one or two aspects of the situation. In order to ensure clarity and ease of comprehension for both survey administrators and respondents, the Likert scale used for this study comprised of five-point scale questions. The selection of sample sizes in each university was then conducted in a manner that maintained a proportional rate. The survey data was gathered in English as all the participants were university staff who possess the proficiency to comprehend and respond in English. It is worth noting that English serves as the primary instructional language in Ethiopian Universities. Hence, there is no necessity to translate the data collection questions into local languages. The survey was conducted within 4 months from December 2021 to March 2022. The survey questions utilized to gather the data were examined to determine the pattern of responses provided by participants (unidimensionality) through item-to-rest correlation. All of the survey items utilized for data collection exhibited item-to-rest correlation coefficients surpassing 0.3, which is deemed an acceptable threshold according to the general guideline. The content validity of the instruments was assessed through rigorous peer review, involving soliciting feedback from experienced researchers and esteemed professors, and subsequently obtained their approval. A structural equation model was employed to analyze the data through confirmatory factor analysis and path analysis models. Confirmatory factor analysis (CFA) was used to measure model fitness by checking data validity and reliability and testing model goodness of fit. Whereas, the path analysis model was used to examine the relation between constructs. Qualitative data was used as evidence for quantitative results in the discussion section and used for triangulation.

In order to ensure legality and social acceptability, researchers obtain consent from the top management of the university. They also clarify the objective and significance of the study to the deans, directors, departments, and offices included in the sample frame. All participants are informed that the collected data will be used solely for academic research purposes, and their consent is obtained. It is emphasized to the participants that they are under no obligation to answer the questions unless they willingly choose to do so. Once the data collection process is completed, the information is double-checked with the relevant authority to enhance their confidence in the provided information and to ensure the overall acceptability of the research findings.

Data analysis and presentation

In this section, we will focus on the examination and representation of the original data obtained from respondents through written and interview questionnaires.

We proposed a sample size of 376 and distributed the questionnaires accordingly. Out of the distributed questionnaires, we were able to collect 365, with 11 questionnaires remaining unreturned. Therefore, the response rate of the distributed questionnaires was approximately 97%, indicating a significantly high rate of response that is adequate for further data analysis.

A comparative analysis on the implementation of concepts across educational institutions

Descriptive analysis was employed to depict the fundamental attributes of the study’s primary variables, from which research data was gathered. Additionally, it was utilized to elucidate the level of practical implementation of the study’s concepts within the relevant institutions. The average mean of participants’ responses was used to determine the application level. A higher average mean was assumed to signify a commendable application of the issue being investigated, while a lower average mean indicated a lower level of application. The values presented in Table 1 below provide a concise summary of the comparative analysis results among the various institutions involved in the study.

The data presented in Table 1 demonstrates the level of implementation of the study’s concepts, which ranged from low to satisfactory. The average mean of the participants’ responses indicated that the variables of the study fell between 2.60 and 3.48, with variations observed among the universities involved in the study. Employee engagement levels were found to range from 2.6 to 3.2, while organizational performance spanned from 2.95 to 3.48. The measurement of employee engagement considered three parameters: vigor, dedication, and absorption. The responses of the participants exhibited a consistent level of variability across all variables, with a standard deviation ranging from 0.54 to 0.64. This suggests that there was relatively little variation in the participants’ responses. Additionally, the overall average mean of the

study institutions indicates that organizational performance is directly influenced by employee engagement.

Measurement model

Employee engagement construct

To evaluate the degree of employee engagement as a predictor of organizational performance, three specific aspects were considered: Vigor, Dedication, and Absorption. The items used for this assessment underwent thorough tests to ensure their validity and reliability, as demonstrated in Table 2 below. The values presented in Table 2 indicate that all items possess Cronbach’s alpha values greater than 0.83, which signifies a high level of internal consistency among the items. Additionally, all items exhibited factor loadings above or equal to the minimum requirement of 0.7, with average variance extracted values exceeding 0.60. These findings serve as evidence for the presence of both composite reliability and convergent validity. Furthermore, the correlation values between each variable are significantly lower than the square root values of the average variance extracted (AVE) for each construct. Similarly, the squared values of the correlations between constructs are also considerably below the AVE values for each construct. This confirms that the construct possesses discriminant validity, thereby establishing its appropriateness.

In summary, the values presented in Table 2 provide a comprehensive overview of the measurement aspects related to the employee engagement construct. These values were obtained through confirmatory factor analysis, which serves as a robust method for testing both validity and reliability.

Assessments of model fitness for employee engagement construct The RMSEA value for this particular model is 0.066, which falls within the range of close fit, as a value below 0.08 is considered to indicate a good fit according to Cudeck et al. [9] and Steiger [51]. Additionally, the preci-

Table 1 Results of descriptive analysis

Dimensions	BHU		HU		WSU	
	Mean	SD	Mean	SD	Mean	SD
Employee engagements	2.60	.61	3.07	.63	3.21	.53
Vigor	3.70	.79	3.57	.79	3.74	.64
Dedication	3.87	.90	3.66	.86	3.72	.85
Absorption	3.80	.82	3.50	.90	3.82	.70
Organizational performances	2.95	.63	3.38	.64	4.49	.55
Quality in services	2.60	.97	2.78	.98	3.17	.90
Quality in research output	2.67	.88	2.91	.89	3.31	.88
Competency in graduate	2.90	.80	3.18	.91	3.32	.94

Table 2 CFA for employee engagement

Construct	Item	Alpha	FL	SFL	AVE	(S/r AVE)	C/construct	S/variance	
Strategic alignment	Vigor	.8526	.81	.66	.61	.78	.41	.17	
		EE2	.8487	.82					.67
		EE3	.8539	.70					.49
Dedication		EE4	.8442	.77	.61	.78	.48	.23	
		EE5	.8446	.77					.59
		EE6	.8387	.81					.66
Absorption		EE7	.8453	.73	.66	.81	.73	.53	
		EE8	.8328	.88					.77
		EE9	.8392	.80					.64

Source: Researcher survey result (2023)

Table 3 Test results of the goodness-of-fit model CFA for EE

No	Index	Critical value	Results	Model fit
1	Chi Square	The smaller the better	61.859	Less fit
2	CMIN/DF	< 5.00	2.58	Fit
3	CFI	≥ 0.95	0.975	Fit
4	RMSEA	≤ 0.08	0.066	Fit
5	TLI	≥ 0.90	0.963	Fit
6	CI	≤ 0.50	0.046	Fit
7	SRMS	≤ 0.60	0.028	Fit
8	CD	Close to 1	0.992	Fit

Source: researcher survey result (2023)

sion of the RMSEA estimate can be assessed through the point estimate, which represents the lower boundary of the confidence interval. In this case, the lower bound of the model is 0.046, which is below the suggested close fit value of 0.05 according to MacCallum et al. [41]. Consequently, the model is considered to be a close fit for the given data.

Another measure of model fit is the Standardized Mean Square Residual (SRMR), which provides an overall assessment based on squared residuals. In this model, the SRMR value is 0.028, which is lower than the minimum cutoff points suggested by the rule of thumb proposed by Hu et al. [28]. Furthermore, the comparative fit index is used to evaluate the fitness of the model of interest in comparison to a baseline model. The CFI and TLI are two comparative fit indexes, with values of 0.975 and 0.963, respectively, for this particular model. Both of these values exceed the minimum cutoff point of 0.95, as suggested by Kaplan [34]. Therefore, the model is considered to be the best fit based on both absolute and comparative fit indexes.

The Table 3 below displays the summary results of the model goodness-of-fit test for the employee engagement construct.

Organizational performance construct

The results of the assessment of construct validity and reliability revealed that all the items used to measure concepts are suitable. The data presented in Table 4 below demonstrate that all items have Cronbach’s alpha values exceeding 0.89, which indicates a high level of internal consistency among the items. Additionally, the factor loadings of all items were above or equal to the minimum required level, with average variance extracted values surpassing 0.50. These findings indicate the presence of composite reliability and convergent validity.

Furthermore, the correlation values between each variable are significantly lower than the square root values of the average variance extracted (AVE) of each construct. Similarly, the squared values of the correlation between constructs are also considerably below the AVE values of each construct. As a result, it can be concluded that the construct exhibits discriminant validity.

The figures presented in Table 4 provide a comprehensive summary of the confirmatory factor analysis conducted.

Assessments of model fitness for organizational performance construct

The model’s fitness was evaluated using descriptive fit indices, which compared the sample covariance matrix to the model’s expected covariance matrix. The RMSEA value for this model is 0.018, falling within the acceptable range of less than 0.05, which is considered the best fit. According to Hu and Bentler [27], a value below 0.06 is recommended as a cutoff criterion, making this model acceptable. Additionally, the SRMR value for this model is 0.028, which is lower than the minimum cut points typically used as a rule of thumb and indicates a good fit for the data [28].

Table 4 CFA for organizational performance

Construct	Item code	Alpha	Factor loading	Square of FL	AVE	Square root of AVE	Correlation between construct	Square root of variance
Organizational performance	Quality of services	OP1	.8919	.70				
		OP2	.8928	.90	.49	.67		
		OP3	.8919	.84	.71		.82	
Quality of research output		OP4	.9007	.69	.48		.12	0.01
		OP5	.8939	.85	.72	.60	.77	
		OP6	.8919	.78	.61		.46	.21
Competency of graduate		OP7	.8921	.80	.64			
		OP8	.8900	.85	.72	.64	.77	.057
		OP9	.9030	.74	.55			.00

Source: researcher survey result (2023)

Table 5 Test results of the goodness-of-fit model CFA for OP

No	Index	Critical value	Results	Model fit
1	Chi square	The smaller the better	26.695	Fit
2	CMIN/DF	< 5.00	1.13	Fit
3	CFI	≥ 0.95	0.998	Fit
4	RMSEA	≤ 0.08	0.018	Fit
5	TLI	≥ 0.90	0.997	Fit
6	CI	≤ 0.50	0.000	Fit
7	SRMS	≤ 0.60	0.028	Fit
8	CD	Close to 1	0.997	Fit

Source: researcher survey result (2023)

The comparative fit indexes (CFI: 0.998, TLI: 0.997) also suggest a good fit for the model when compared to the data. Table 5 provides a summary of the goodness-of-fit indices for the organizational performance construct.

Structural model and hypothesis testing

The aim of this study was to evaluate the overall fitness of the structural model. To accomplish this, we utilized

the same goodness of fit indices that were employed in the measurement model. Additionally, we examined the estimated parameters to ensure their statistical significance. Below, Fig. 1 illustrates the conceptual relationship between the latent construct and its respective indicators.

The RMSEA value for this particular model is 0.068, which falls within the acceptable range of less than 0.08. This level of fit is considered adequate based on the suggestions of Cudeck et al. [9] and Steiger [51]. Additionally, the precision of the RMSEA estimate can be assessed through the point estimate, which helps evaluate the model fitness. MacCallum et al. [41] proposed that for a close fit, the lower boundary (left side) of the confidence interval should be less than 0.05, and for an exact fit, it should contain zero. In this case, the lower bound of the model is 0.034, which aligns with the suggested close fit value of 0.05. Therefore, the model demonstrates a close fit for the given data. The SRMR value for the model is 0.036, which is lower than the minimum cut points suggested by Hu et al. [28]. This indicates a good fit of the model for the data. The comparative index (CFI) value for this study is 0.982, which is a good indicator of

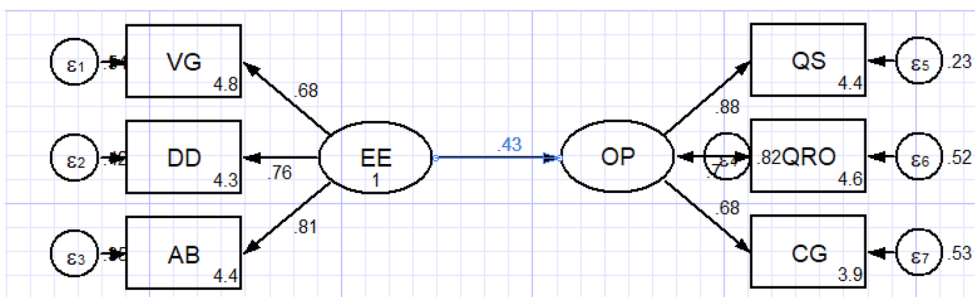


Fig. 1 Measurement model

comparative fit and surpasses the minimum cut points. Additionally, the TLI value is 0.966, exceeding the minimum acceptable level of 0.90 and indicating a comparative fitness of the model. Hence, the model is considered the best fit in terms of both absolute and comparative indexes. The overall coefficient of determination (CD) for the model is 0.973. Since the CD value is approaching 1, it further confirms that the model is the best fit for the data. In summary, the table below presents the values of the goodness-of-fit test for the structural model (Table 6).

Path analysis

The degree to which the model fits the theoretical one in path analysis is assessed by considering the collective impact of all exogenous variables on the endogenous variables, known as R². In path analysis, the R² value represents the coefficient of determination, also known as the association index. This value serves as a scale to measure the magnitude of the combined effect of all exogenous variables on the endogenous variables simultaneously. Figure 2 illustrates the causal relationship between the explanatory variables and the predicted variable.

The data presented in Table 7 indicates that there is a significant relationship between the exogenous variable

Table 7 Path model result

Structural	Coef	Std. err	P (sig)	R ²
EE → OP	.9061932	.0071856	0.000	0.8212
VG → OP	.1880466	.0457251	0.000	
DD → OP	.118615	.038166	0.002	
AB → OP	.1555075	.0446822	0.001	
_cons	.8773473	.1224573	0.000	

Source: researcher survey result (2023)

(employee engagement) and the endogenous variable (organizational performance). All three parameters used to measure employee engagement (Vigor, Dedication, and Absorption) significantly contribute to the variability in the dependent variable of the study. The model fits the data well, with a value of 82% representing the magnitude of the effect of the exogenous variable on the endogenous variable. The coefficient of determination (R²) in the model is 0.8212, which indicates the proportion of the organizational performance’s variation that can be explained by employee engagement. According to the association index, approximately 0.18 percent of the variability in organizational performance is attributed to factors not included in the model. The summarized results of the path analysis can be found in Table 7 below.

Table 6 Test results of the goodness-of-fit for structural model

No	Index	Critical value	Results	Model fit
1	Chi square	The smaller the better	21.427	Less Fit
2	CMIN/DF	< 5.00	2.68	Fit
3	CFI	≥ 0.95	0.982	Fit
4	RMSEA	≤ 0.08	0.068	Fit
5	TLI	≥ 0.90	0.966	Fit
6	CI	≤ 0.50	0.034	Fit
7	SRMS	≤ 0.60	0.036	Fit
8	CD	Close to 1	0.813	Fit

Source: researcher survey result (2023)

Summary of hypothesis testing

The assessment result of the hypothesis formulated for this study was presented as follows.

Hypothesis 1: Vigor exerts a statistically significant influence on organizational performance.

The variable have a *p* value of 0.000, indicating their significant impact. The regression coefficients are 0.19, which is much lower than the 5% significance level. As a result, we reject the null hypothesis and accept the

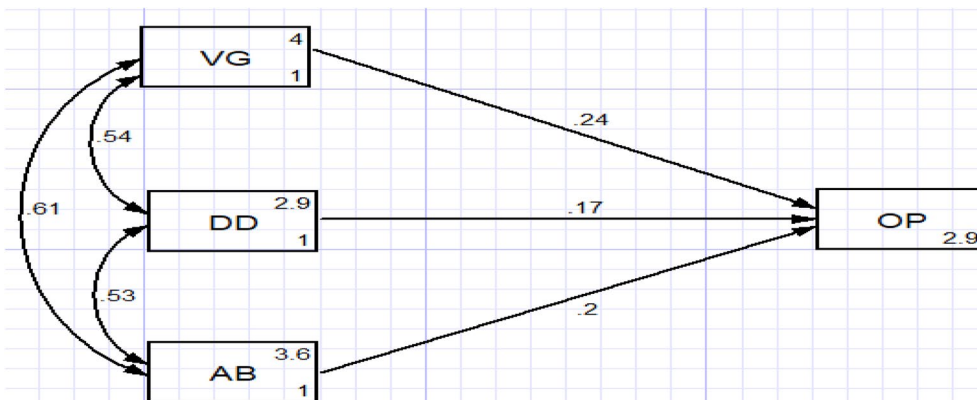


Fig. 2 Path model

alternative hypothesis proposed by the researcher. Consequently, vigor has a noteworthy and direct influence on organizational performance. In this context, the regression coefficient signifies that a one standard deviation increase in vigor results in a 0.19 standard deviation improvement in organizational performance, assuming all other variables remain constant.

Hypothesis 2: Dedication exerts a statistically significant influence on organizational performance.

The importance of the variable has been determined to have a p value of 0.002, along with regression coefficients of 0.12, which is considerably lower than the 5% significance level. As a result, the null hypothesis is rejected, and the alternative hypothesis, proposed by the researcher, is accepted. Consequently, it can be concluded that employee dedication has a significant and direct impact on organizational performance. In this context, it can be inferred that a one standard deviation increase in employee dedication leads to a corresponding 0.12 standard deviation improvement in organizational performance, assuming all other variables remain constant.

Hypothesis 3: Absorption exerts a statistically significant influence on organizational performance.

The variable has a significance (p) value of 0.001, indicating a strong statistical relationship. The regression coefficients, which measure the strength of this relationship, are 0.16. This value is significantly lower than the 5% level of significance, providing evidence to reject the null hypothesis and accept the alternative hypothesis proposed by the researcher. Consequently, employee absorption plays a crucial role in influencing organizational performance.

To further understand the impact of this relationship, we can interpret the regression coefficient for the variable. A one standard deviation increase in employee absorption is associated with a 0.16 standard deviation improvement in organizational performance, assuming all other variables remain constant. This suggests that enhancing employee absorption can lead to notable enhancements in organizational performance.

Summary of findings and discussions

The primary objective of this study is to explore the impact of employee engagement on the performance of Ethiopian universities. To achieve this, a combination of qualitative and quantitative data was gathered from a sample of three selected universities. The quantitative data was analyzed using stata14 software, while the qualitative information was utilized for corroborating the findings obtained through questionnaires. Both

descriptive and inferential statistics were employed during the analysis process.

The descriptive analysis of the study indicates that the application levels of the variables under investigation in the respective institutions were moderately implemented, although there were variations among the institutions. The descriptive analysis of these variables reveals that in the institution where employee engagement is low, the organizational performance is also lower compared to institutions where employee engagement is relatively higher, and vice versa. This characteristic of application implies the presence of cause-and-effect relationships between the variables. All three variables used to examine the influence of employee engagement on organizational performance exhibit strong and significant correlations and effects. The results from both the confirmatory factor analysis and path analysis demonstrate that the models are statistically appropriate for the given data. The study focuses on employee engagement, specifically exploring the variables of vigor, dedication, and absorption. These variables demonstrate noteworthy correlations and effects, which are consistent with the findings of investigation by Jaya and Ariyanto [32]. While the study of Jaya and Ariyanto provides insights into the relationship between vigor, dedication, absorption, and employee performance in the context of PT Garuda Indonesia Cargo, its limitations should be considered when interpreting the findings and applying them to other settings. The paper has limitations include a small sample size, limited context as it focused solely on the sector head office, and an undisclosed data collection period.

The outcomes of this research fulfill the assumption of the AMO theory, which suggests that enhancing the ability, motivation, and opportunity of employees to participate in the organizational interests is beneficial. This aligns with the concept of employee engagement. Moreover, it is in line with the findings of Nabhan and Munajat [23], whose findings suggest that work engagement and organizational commitment strengthen the influence of organizational identification and Islamic work ethic on job performance. The findings underscore the significance of being actively involved in one's work and having a strong sense of dedication towards the organization for enhancing job performance. However, it is important to acknowledge that the results have certain limitations due to factors such as the size of the sample, contextual elements, and missing variables. To enhance the validity of these findings and gain a deeper understanding of the topic, future researchers are encouraged to employ larger and more diverse samples, utilize longitudinal designs, and consider incorporating additional variables. By doing so, the findings can be strengthened, leading to a more comprehensive and reliable understanding of the subject

matter. Furthermore, it substantiates the findings established by Mansor et al. [22], who conducted a thorough examination and established a noteworthy correlation between employee engagement and organizational performance. However, the outcomes are constrained due to the exclusive use of closed questionnaires, the narrow concentration on private companies, and the recommendation for additional research to overcome these limitations and gain a more extensive understanding of the factors that impact employee engagement and the strategies that effectively promote it. Consequently, the present study endeavored to tackle at least one or more of the constraints proposed by each analyzed study.

Furthermore, the study explored the respondents' perspectives, emotions, and attitudes regarding the implementation level of study concepts, as well as its impact on organizational performance. In order to accomplish this, quantitative data was utilized and analyzed. The purpose of the inquiry was to evaluate the outlook and understanding of university employees regarding their level of engagement with their respective institutions. The combined and condensed outcomes derived from the participants' qualitative feedback indicate that the level of employee engagement in higher education is moderately satisfactory, despite considerable differences among the institutions under study. To provide further insight, the following statement from one of the respondents is presented.

From a logical standpoint, there exists a positive correlation between employee engagement and organizational performance. At present, the engagement level of academic staff falls within the medium range, and its impact can be observed through the quality of education and the competence of students in the business market.

The findings presented here bear resemblance to the results obtained through descriptive statistics, which are summarized in Table 1. In the table, it is observed that the average figure for men is 2.98, with a standard deviation of 0.64. This figure provides a cumulative overview of the responses obtained from all three university staff members. When examining the comparative descriptive summary, it becomes evident that there is a significant degree of variability among the different institutions in terms of employee engagement levels. Similarly, the qualitative descriptions provided by the respondents also highlight this variability. At an extreme level, the views expressed by the respondents regarding employee engagement levels differ greatly between the two institutions under study. In one university, the majority of respondents reported low levels of employee engagement, whereas in another university, respondents stated that employee engagement levels were high. However, when considering

the cumulative responses from all three universities, it can be concluded that there is a somewhat moderate level of employee engagement present, despite the variability observed among the different institutions.

Conclusion, implication and limitation

Conclusion and implication

The study findings reveal that employee engagement dimensions such as vigor, dedication, and absorption have a notable and favorable impact on the performance of organizations in higher education. Additionally, the research highlights that the level of employee involvement affects the performance of institutions differently. This study aims to bridge the gaps in understanding the dynamics of employee engagement and its consequences on organizational performance. It emphasizes the importance of exploring contextual elements and specific influences that shape the relationship between engagement and performance. Factors like organizational culture, leadership style, job characteristics, and industry dynamics play a role in shaping this relationship. By focusing on the distinct dynamics and challenges faced by public universities in Ethiopia, this study contributes to the existing knowledge in this field. It offers valuable insights and recommendations to enhance performance in the higher education sector. The research underlines the significance of tailored strategies and cultivating an environment that promotes employee engagement to improve performance outcomes. Furthermore, it sheds light on the importance of employee engagement in driving organizational performance and underscores the need for further studies and interventions within the context of Ethiopian public universities. Although there may be certain limitations to this article, as suggested in the limitations and suggestions for future research, it still contributes to the existing literature by emphasizing the significance of employee engagement in Ethiopian public universities. It lays the groundwork for future research and provides practical implications for managers and leaders aiming to enhance organizational performance through employee engagement initiatives.

The study makes a significant contribution to the management literature by combining various theoretical frameworks, including the Job Demands-Resources Model, Self-Determination Theory, Job Characteristics Theory, and Kahn's Engagement Theory. This integration offers a comprehensive comprehension of the connection between employee engagement and organizational performance. The study's results underscore the significance of particular aspects of employee engagement, specifically vigor, dedication, and absorption, in influencing organizational performance within the higher education sector. These findings emphasize the necessity for further

research to delve more deeply into these dimensions and their effects on performance outcomes.

The research offers valuable insights for managers and leaders in public universities in Ethiopia, shedding light on the importance of nurturing employee engagement to enhance organizational performance. Managers should prioritize the implementation of strategies that cultivate enthusiasm, commitment, and absorption among their workforce. The study suggests that organizations should establish a work environment that is supportive and positive, fostering employee engagement. This can be accomplished by providing opportunities for professional growth, promoting a healthy work-life balance, and acknowledging and rewarding employee contributions. In essence, the study presents actionable implications for managers and leaders in public universities, underlining the significance of employee engagement in driving organizational performance. By adopting approaches to fortify employee engagement, organizations can enhance productivity, retention rates, and overall success.

Limitation and suggestion for future researchers

The research conducted on the impact of employee engagement on the performance of public universities in Ethiopia offers valuable insights and suggestions. However, it is important to acknowledge certain limitations of the study, including the presence of potential confounding variables. The study employed a cross-sectional design, which restricts the ability to establish a causal relationship between employee engagement and organizational performance. To gain a more comprehensive understanding of this relationship, future research should employ longitudinal designs. Additionally, it should be

noted that the sample size of 365 personnel from three selected universities may not accurately represent the entire population of public universities in Ethiopia. Hence, caution should be exercised when generalizing the findings. Furthermore, the study primarily focused on the dimensions of vigor, dedication, and absorption as indicators of employee engagement. It did not extensively examine other dimensions or factors that could potentially influence engagement and performance, such as job satisfaction, motivation, and organizational support. To enhance the findings, future research should thoroughly explore these additional dimensions and factors. Additionally, it is worth mentioning that the study solely relied on self-reported data, which may be susceptible to common method bias and social desirability bias. To strengthen the findings, future research could incorporate multiple data sources and objective measures. Lastly, the study did not extensively explore the potential influence of external factors, such as economic conditions or government policies, on employee engagement and organizational performance. These external factors could act as important confounding variables and should be taken into account in future studies.

**Appendix
Scale questions**

Please circle number of your choice corresponding to the option that identifies your level of agreement on the true feeling you have on a five point scale ranging from extreme dis agreement to extreme agreement (1 to 5) where, 1 = strongly disagree 2 = disagree 3 = neutral 4 = agree and 5 = strongly agree.

Employee engagement		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I can continue to work for long hours on my job	1	2	3	4	5
2	I feel like bursting with energy at my work	1	2	3	4	5
3	I always persevere, even when things do not go well at my job	1	2	3	4	5
4	I feel it is morally correct to dedicate myself to this university	1	2	3	4	5
5	Employees of this university feel as if this university's problems are their own	1	2	3	4	5
6	Employees of this university are proud of the work that they do in this university	1	2	3	4	5
7	Time flies when I work in this university	1	2	3	4	5
8	I feel happy when I work intensively in this university	1	2	3	4	5
9	When I get up in the morning, I desire to go to work and it is difficult to detach me from my job	1	2	3	4	5
Organizational performance		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Services of the university are regularly reviewed to reflect changing client needs	1	2	3	4	5
2	Customers' satisfaction is high in this university	1	2	3	4	5

Organizational performance		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
3	Work-life balance practices of university are efficient that motivate, attract and retain us in this university	1	2	3	4	5
4	Staff turnover is low in this university	1	2	3	4	5
5	Livelihoods of local communities in the catchment areas of university were improved by university community services	1	2	3	4	5
6	Sufficient numbers of research outputs are released from this university every year	1	2	3	4	5
7	There are a number of publications in the reputable journals from this university every year	1	2	3	4	5
8	Several of technologies were innovated and transferred to local community	1	2	3	4	5
9	University has researchers who are members of editorial boards of national or international journals	1	2	3	4	5

Open ended Questions

1. Do you think that employees of this university are happy and engaged for organization?

2. If your answer for question number 5 is yes, could you explain how it affects organizational performance?

3. Do you think that employee engagement contributed for improvement in organizational performance? _____

4. As your opinion, the level of employee engagements in this university is

1. High 2. Medium 3. Low

5. If your answer is high, what you think is the reason for high employee engagement?

6. If your answer for question number 8 is low, explain what you think as a reason for low employee engagement

7. From your experiences in this university, how does employee engagement level affects organizational performance? _____

Abbreviations

EE	Employee engagement
OP	Organizational performance
VG	Vigor
DD	Dedication
AB	Absorption
QS	Quality in services
QRO	Quality in research output

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