# Impact Of Interactive Control In Improving Academics' Performance: Mediating Role Of Fairness

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**Abstract:** This study aims to empirically examine the direct and indirect effects of interactive control on performance by analysing the role of justice as an intervening variable. This research uses a survey approach by distributing questionnaires directly or online. The research sample obtained was 383 academics at universities throughout Indonesia. Data analysis was carried out using structural equation modelling. The results showed that interactive control has no direct effect on performance. However, interactive control indirectly affects academic performance through fairness. This suggests the importance of improving fairness in effective performance measurement to improve academic performance. The novelty of this study lies in equity as an intervening variable in the relationship between interactive control and performance. The findings of this study provide practical insights for higher education management to implement an interactive control approach that can increase the sense of fairness towards implementing performance measurement systems to impact academic performance positively.
**Keywords:** Interactive Control; Performance; Fairness; Universities.

**Abstrak:** Penelitian ini bertujuan untuk menguji secara empiris pengaruh langsung dan tidak langsung interaktif kontrol terhadap kinerja, dengan menganalisis peran keadilan sebagai variabel intervening. Penelitian ini menggunakan pendekatan survey dengan mendistribusikan kuesioner secara langsung maupun online. Sampel penelitian yang diperoleh sebanyak 383 akademisi pada perguruan tinggi seluruh Indonesia. Analisis data dilakukan dengan menggunakan structural equation model. Hasil penelitian menunjukkan bahwa interaktif kontrol tidak berpengaruh langsung terhadap kinerja. Namun, interaktif kontrol berpengaruh tidak langsung terhadap kinerja akademisi melalui keadilan. Hal ini menunjukkan pentingnya meningkatkan keadilan dalam pengukuran kinerja yang efektif agar berdampak pada peningkatan kinerja akademisi. Kebaharuan penelitian ini terletak pada keadilan sebagai variabel intervening pada hubungan interaktif kontrol dan kinerja. Temuan penelitian ini memberikan wawasan praktis bagi manajemen perguruan tinggi untuk menerapkan pendekatan interaktif kontrol yang dapat meningkatkan rasa keadilan terhadap penerapan sistem pengukuran kinerja sehingga berdampak positif bagi kinerja akademisi pada perguruan tinggi.
**Kata Kunci:** Interaktif Kontrol; Kinerja; Keadilan; Perguruan Tinggi.

## INTRODUCTION

Public sector entities are actively involved in the provision of public services. To ensure the best quality of public services, it is imperative to implement creative service policies that optimise the delivery of various parts of these services (Kadarisman et al., 2022). One example is higher education because providing high-quality education will produce human resources that can optimise other resources (Alzahrani et al., 2021). A
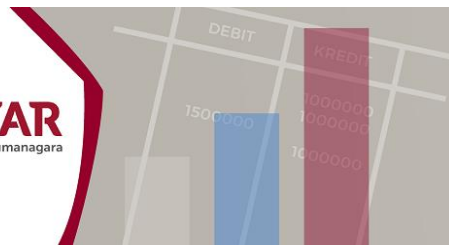
developed nation can be defined as one with a substantial quantity of high-quality resources (Ntim et al., 2017). The achievement of high-quality human resources is closely linked to the critical function of education, particularly in teaching. It is the responsibility of academics to provide students with the necessary skills and knowledge to become competent and proficient professionals in the world of work (Kuncoro & Safrizal, 2023). Based on the Regulation of the Minister of Administrative Reform and Bureaucratic Reform (Permenpan and R.B.) Number 1 of 2023, the functional position of lecturers has a significant role in facilitating universities to achieve optimal and quality performance (Lince, 2023). According to (Anggis, 2022), Lecturers have obligations as teaching staff and carry out research or publications. Lecturer performance needs to be optimised so that the quality targeted by universities can be achieved.

The attainment of organisational performance can be facilitated by implementing a management control system incorporating a performance measuring system. (Parwoto & Halim, 2020) state that implementing a performance appraisal system is essential for public sector institutions. The management control system can be implemented effectively in the organisation by balancing the control of the control levers, namely interactive control (Pilonato & Monfardini, 2020). Interactive control is a management control system facilitating direct engagement in decision-making activities (Biswas et al., 2023). Managers frequently employ interactive control mechanisms to enhance organisational performance (Bisbe et al., 2019). Interactive control facilitates dialogue throughout the organisation, intending to encourage discussion and motivation to achieve organisational goals through a defined framework or agenda.

According to (Ridwan, 2019), work motivation can influence organisational performance well. Motivating people who work in an organisation and are closely tied to the corporate culture to achieve organisational performance goals is essential. The theory of the importance of setting goals or goal-setting theory. This theory states that people with specific goals tend to be more successful than people who do not have clear goals. A group or organisation needs reasonable goals and a plan to achieve them (Krath et al., 2021). The findings of prior studies in Japanese medical facilities indicate that interactive control significantly impacts individual performance through direct and indirect means (Matsuo et al., 2021). A study done within the property sector indicates that implementing interactive control measures has little impact on economic performance (Siregar, 2020). Findings from (Siregar, 2020) show that the impact of interactive control systems on the economic performance of the private sector is minimal. These results differ from (Asiah & Sabaruddinsah, 2021), who state that interactive control positively affects organisational performance in both the private and public sectors.

Previous research findings indicate the need for more consistency in the interactive impact of control on performance within the performance assessment system. Consequently, scholars posit the existence of other variables that may influence performance. According to (Su et al., 2022), the findings of this study indicate that interactive control substantially impacts perceptions of fairness. According to (Su et al., 2022), the results showed that justice positively influences performance. According to (Mahama & Wang, 2023), It has been asserted that the concept of fairness significantly influences manager performance. The idea of fairness in performance evaluation has the potential to be a motivating factor for managers, encouraging them to achieve better results. According to (Baird et al., 2020), fairness has a role in helping measure the extent

to which the evaluation system is accurate, precise, legally permissible, and free from bias. Studies on performance measurement need to be carried out at educational institutions to achieve organisational goals. This is in line with goal-setting theory.

The researcher hopes to determine interactive control's direct and indirect effects on Indonesian university performance based on the previously described situation. The research sample makes this study novel; previous studies used models from for-profit businesses, but this study uses models from non-profit organisations, particularly universities. The unit of analysis used in this study is lecturer performance, as opposed to managerial performance, and the analysis method is variance-based structural equation modelling with SmartPLS 4 software.
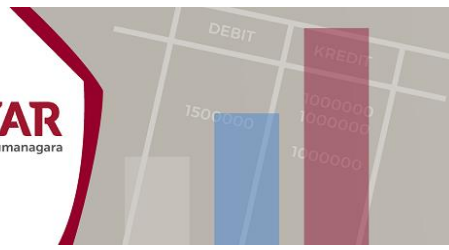
## THEORETICAL REVIEW

College management needs to understand the situations that affect the performance of subordinates (Matsuo et al., 2021). In this case, interactive control is an essential element that allows leaders to adapt and respond effectively to individual or team needs. Every organisation has different performance evaluation and control methodologies (Bisbe et al., 2019). However, it is essential to note that fairness in the performance control system is a significant factor. Fairness influences individual or team motivation and performance (Baird et al., 2020).

Effective leadership involves leaders who can accurately assess the circumstances and adapt their approach accordingly. Additionally, these leaders must ensure fairness within the performance control system. Doing so can significantly enhance the motivation and performance of people or teams, ultimately leading to achieving organisational objectives (Bisbe et al., 2019). The concepts of interactive control, fairness and performance are interconnected and interdependent within a performance management framework. This research incorporates goal-setting theory to examine the significance of plan setting in improving work outcomes. This theory sits within the broader framework of motivation theory. Organisational goals refer to the desired results an organisation aims to achieve to improve its operational efficiency. To achieve these goals, a company needs help from its employees and careful strategic planning, commonly known as goal-setting theory (Locke & Latham, 2019). Every organisation must develop a strategic plan to achieve its goals effectively. By adopting this approach, the company is expected to achieve targets aligned with its goals and mission more effectively. According to this theoretical framework, human behaviour is controlled by an individual's conscious intentions, which are guided by goal direction (Pudjiarti & Darmanto, 2020). They have formulated a theoretical framework for self-motivating goal setting, emphasising the relationship between goals and subsequent behaviour (Locke & Latham, 2019). When goals are set and serve as effective benchmarks for measuring performance, individuals tend to exhibit higher levels of engagement and responsiveness, thereby facilitating effective performance improvement. In addition, implementing time constraints by companies can increase the effectiveness of achieving company goals (Koivisto & Hamari, 2019).

Interactive control refers to a system or strategy that enables humans to actively engage and influence their surrounding environment (Bisbe et al., 2019). *Interactive control* is a management control system employed by leaders to actively participate in
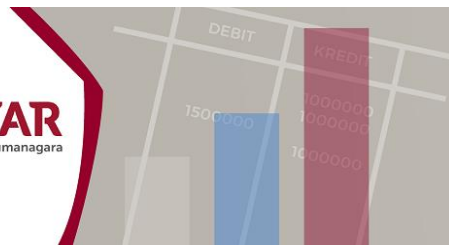
decision-making processes, mitigate strategic uncertainty, and foster the development of novel initiatives or strategies. This management control form is often called supervisory control or levers of control (LOC). The utilisation of this approach by managers is a common practice to make decisions that will subsequently be communicated to their subordinates. According to (Muller-Stewens et al., 2020), interactive control facilitates effective and organised information communication between leaders and subordinates. Managers employ interactive control systems to get information and foster the exchange of ideas. According to (Osma et al., 2018), this approach enables managers to effectively assume leadership roles, collect pertinent information, and tackle strategic concerns inside the organisation. Control encompasses establishing effective relationships between managers and subordinates, wherein they mutually assist one another in attaining the objectives of the business.

Within academic performance, performance may be delineated as the individual accomplishments in an academic setting that demonstrate commendable and practical outcomes of effort (Munaty et al., 2022). The assessment of academics' success can be gauged by their proficiency in generating scientific work or publications, contributions to research domains, aptitude for delivering presentations, teaching effectiveness, and community service engagement. Suggests a correlation exists between academic performance and five crucial factors in public service performance (Ayudia et al., 2021). Firstly, it is essential to examine the extent to which academic success is accurately represented by creating scientific articles, presentations at conferences, and involvement in research projects. Furthermore, the performance of academics has to demonstrate effective strategies for productivity, encompassing proficient time management and resource allocation to attain optimal outcomes.

Furthermore, it is imperative to incorporate several factors when evaluating the performance of academics, including the influence of their research or teaching, the academic value produced, and the principles of justice and equity in conducting these assessments (Lee et al., 2023). Furthermore, the performance of academics is significantly influenced by the principles of honesty, fairness, and responsibility. These principles are crucial in fulfilling teaching responsibilities, conducting correct research, and maintaining academic integrity. The primary purpose of a dependable performance evaluation system is to ascertain the equitable, objective, and impartial assessment of subordinates' performance. According to (Baird et al., 2020), implementing performance assessments is crucial for leaders and managers to gain insight into the work of their subordinates. Additionally, these evaluations allow subordinates to rectify any misconceptions or misinterpretations regarding their performance as perceived by their superiors.

*Management control* is a strategic approach to exercise control over organisational operations by actively incorporating subordinates in formulating and implementing plans and procedures, which are closely monitored and enforced (Tan et al., 2023). The effective management of the interactive control system necessitates significant attention from senior executives to maintain awareness of strategic uncertainties that can impact the attainment of organisational objectives, hence distinguishing it from the diagnostic control system process (Siregar, 2020). Interactive control systems play a crucial role in the implementation of management strategies. Managers consistently engage in the decision-making process and actively participate in the duties assigned to their subordinates. Hence, using interactive control mechanisms can aid managers in the more efficient monitoring

and adjustment of organisational strategies, thereby leading to enhanced organisational performance. Managers consistently and actively engage in their subordinates' decision-making processes and tasks.

Research on the relationship between the effect of interactive control systems on organisational performance has been conducted by (Asiah & Sabaruddinsah, 2021). This shows a positive influence in the private and public sectors. Other research was conducted by (Matsuo et al., 2021, and Zhang & Yu, 2020) and (Sibanda & Grobler, 2023). The study revealed a significant favourable link between utilising interactive control systems and individual performance. The establishment of effective communication channels between managers and subordinates can serve as an indication of a robust level of organisational control. Therefore, the following hypothesis is proposed:

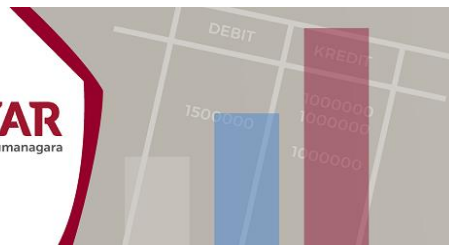**H1:** The Interactive control positively affects performance.

Interactive control systems are formal systems managers utilise to facilitate decision-making processes in all departments within the organisation. The interactive control system is used to encourage communication in face-to-face meetings and establish information links between different levels of hierarchy, functional departments and profit centres (Jolanda & Budianto, 2017). The assessment of organisational learning entails the utilisation of indicators, such as the recognition of the significance of learning for enhancing performance, the adoption of fundamental values that perceive learning as a means to improve comprehension, the acknowledgement that ceasing learning can have detrimental consequences for the future, and the perception of employee learning as an investment rather than mere criticism (Antunes & Pinheiro, 2020).

The concept of control pertains to the degree to which leaders see their capacity to regulate their job performance. However, fairness pertains to the managers' notion of equity within the performance evaluation system. According to (Baird et al., 2020; van Veen-Dirks et al., 2021), leaders who feel they have a high level of control over the performance of their subordinates tend to view the performance appraisal system as fairer. When subordinates see increased control over their tasks or work environment, they will probably experience a heightened sense of entitlement to rewards that align with their level of effort (Colquitt et al., 2023). Hence, a positive correlation exists between an individual's degree of interactive control and their feeling of fairness about the awards or recognition they receive inside their professional environment. Perceived fairness in the performance appraisal system can affect individual commitment to goal setting. If there is interaction between leaders and subordinates in performance evaluations, individuals will feel that their performance evaluations are fair or impartial. Therefore, the following hypothesis is proposed:

**H2:** The Interactive control positively affects fairness.

Concerns that subordinates feel about the appraisal system when performance is not evaluated relatively and equally. In other words, goal-setting theory states that setting goals to achieve a clear plan and purpose in making decisions is necessary (Ridwan, 2019). A sense of fairness improves fairness to co-workers, leaders and the organisation (Deviastri & Sekarsari, 2020). Employees who believe their performance appraisal system is equitable are likelier to exhibit higher performance levels (van Veen-Dirks et al., 2021). Fairness can

affect performance due to the influence of individual trust in the performance evaluation system and motivation to achieve goals set.

Disparities in the allocation of resources, such as remuneration or advancements, might engender a sense of undervaluation among employees, thus diminishing their inclination to exert more significant effort in their work. In addition to its detrimental effects on employees' motivation and performance, injustice can engender a sense of powerlessness among employees, leading them to perceive a lack of control over their responsibilities and work environment. Hence, managers and organisations must prioritise equity within the workplace and endeavour to provide a work milieu that fosters fairness and enhances employee productivity. Achieving this objective entails ensuring equitable allocation of resources, fostering equal prospects for professional advancement, and granting employees adequate autonomy in managing their duties and work milieu. Perceived rights in the performance appraisal system can affect the effectiveness of goal-setting and individual performance. Consistent with prior scholarly investigations, empirical evidence indicates that justice positively impacts performance (Baird et al., 2020; Su et al., 2022; van Veen-Dirks et al., 2021). When the performance appraisal system is deemed reliable, it can enhance motivation and improve the performance of individuals, including lecturers. Therefore, the following hypothesis is proposed:
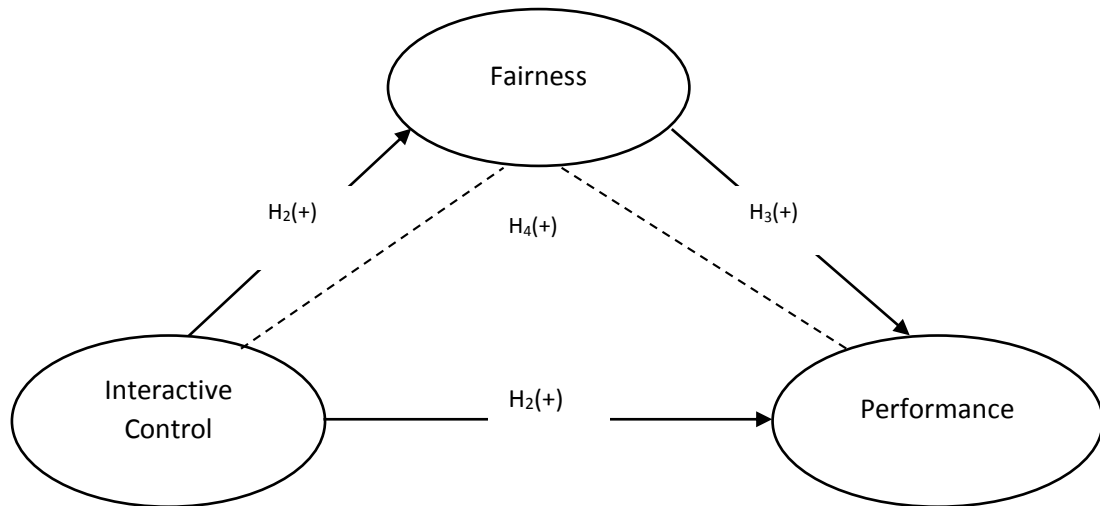
**H3:** Fairness positively affects performance **.**

Organisational trust can help employees be more motivated (Bellora-Bienengräber et al., 2023). Goal-setting theory argues that setting goals to achieve clear plans and objectives when making decisions is essential (Kang et al., 2022). The implementation of strategic plans and the promotion of transparency in evaluating organisational performance have the potential to increase trust among all members of the company (Husni et al., 2023). The belief system affects the way a person does their work. This means that subordinates really understand the goals and values of the organisation, or the leader has informed associates about the essential values and purposes of the organisation, and deputies respond accordingly. In an effective control system, organisational members have equal opportunities to participate so that decisions can be considered fair and appropriate (Kominis et al., 2022).

Interactive control systems can reduce uncertainty among public sector organisations (Kominis et al., 2022). When an employee perceives a heightened sense of interactive control inside the workplace, there is a greater likelihood that they will perceive a more substantial justification for being rewarded based on their degree of effort. The phenomenon above has the potential to enhance individuals' feelings of equity and contentment in their work, thereby leading to a positive impact on their overall job performance. Based on research conducted by (Su et al., 2022), there is a positive relationship between interactive influence and fairness in public sector organisations. When leaders use the performance measurement system to discuss changes in the work unit environment, individuals will feel that the performance measurement system can represent how healthy performance is. Therefore, the following hypothesis is proposed:

**H4:** The Interactive control positively affects performance through fairness.

**Figure 1. Research Model**
Source: Primary data processed by the researchers, 2023

## METHODS

The participants in this research consist of tenured faculty members who have accumulated at least three years of teaching experience at Indonesian universities. Individuals who satisfy the criteria above are deemed to have experienced the effects of the performance measurement system adopted by the university.

An interactive control system (ICS) is an information system that enables supervisors to actively and directly participate regularly in their subordinates' decision-making processes. Managers subsequently direct their attention on and prioritise the promotion of discourse across the entire organisation. Managers are crucial in facilitating the debate process by establishing a structured framework or agenda. Additionally, they inspire and encourage collecting information from sources beyond regular and customary activities (Jolanda & Budianto, 2017). Furthermore, Academic performance refers to the proficiency demonstrated in many academic endeavours, including but not limited to teaching, doing research, and making valuable contributions to the advancement of higher education establishments. The intervening variables of fairness are psychological constructs that pertain to an individual's subjective perception regarding the equity or impartiality of a given circumstance or treatment. Within the realm of management accounting study, the concept of fairness frequently pertains to the appraisal of performance and the implementation of incentive systems within organisational settings (Su et al., 2022).

The data-gathering method employed a questionnaire on a 5-point Likert scale (Hair et al., 2021). The questionnaire was distributed in two parts. The first consisted of questions about demographics, namely gender, work experience, latest education, and structural position. The second part included questions about the research variables: interactive control, fairness, and performance. Questionnaires were distributed in person and online to increase the response rate. The collected data were analysed using the variance-based Structural Equation Model (SEM) method with Smart-PLS.

Before testing the hypothesis, the Common Method Variance (CMV) test results show that 41 per cent does not exceed the required value, so there is no potential for bias or error, such as self-reported bias, complexity, ambiguity, and questionnaire scale format (Tehseen et al., 2017). The testing stage consists of two stages, namely, outer and inner model evaluation (Hair et al., 2021).

## RESULTS

The results of data collection obtained 383 respondents who participated in this study. **Table 1** shows statistical data on the characteristics of respondents, displaying details of the identity of respondents based on gender, work experience, education level and structural position. Most of the respondents are female 54 per cent which indicates that women made up the majority of the study's responses; the last education is S2 68 per cent this indicates that many study participants hold a master's degree, the experience is more than 18 years 40 per cent this indicates that individuals with more than 18 years of work experience make up most of this survey, and 62 per cent are not in office this indicates that 62% of the study's participants do not hold structural posts in higher education.

**Table 1.** Descriptive Statistical Results

| Characteristic | Description | Number | Percentage |
|---|---|---|---|
| | Number of Respondents | 383 | 100 |
| Gender | Man | 175 | 46 |
| | Woman | 208 | 54 |
| | Number of Respondents | 383 | 100 |
| | Range from 3 to 8 Years | 124 | 32 |
| Work Experience | Range from 8 to 13 Years | 59 | 15 |
| | Range from 13 to 18 Years | 46 | 12 |
| | Over 18 Years | 154 | 40 |
| | Number of Respondents | 383 | 100 |
| Education | S2 | 262 | 68 |
| | S3 | 121 | 32 |
| | Number of Respondents | 383 | 100 |
| Structural Position | Not in office | 237 | 62 |
| | Employee | 146 | 38 |

Source: Primary data processed by the researchers, 2023

The output in **Table 2** shows that several indicators have an outer loading value below 0.060. The requirement for a construct to be said to be valid, namely that it must meet the external loading value above 0.060, will be removed (Hair Jr et al., 2021; Muttaqin & Mulyasari, 2018).

**Table 2.** Outer Loading Test Results

| Code | Indicator | Outer Loading | AVE |
|------|-----------|---------------|-----|
| **Interactive control** | | | |
| IC1 | There is continuous interaction between leaders and lecturers in the performance management process at the university where I work. | 0.866 | |
| IC2 | My college/work unit conducts periodic performance evaluations (semester/year/specific period) involving leaders and lecturers. | 0.871 | |
| IC3 | In my university, the lecturer performance appraisal system is used as a performance improvement strategy (lecturer/Working Unit/University) | 0.894 | 0.782 |
| IC4 | In my college, the performance appraisal system produces information high on the agenda in discussions between leaders and lecturers. | 0.918 | |
| IC5 | In my college, the performance measurement system is used by leaders and lecturers to discuss changes within the work unit/college. | 0.916 | |
| IC6 | In my college, the performance measurement system is often used to identify strategic uncertainties. | 0.838 | |
| **Performance** | | | |
| P1 | Educational Performance (Lecturing, Mentoring, Testing, Development of teaching materials etc.) | 0.724 | |
| P2 | Research Performance | 0.860 | |
| P3 | Publication Performance (Monograph, Reference, National Publication, International Publication) | 0.770 | 0.621 |
| P4 | Public Engagement Performance / Tridharma Support (Committee, Active role in scientific meetings, member of professional associations) | 0.734 | |
| P5 | Community Service Performance | 0.759 | |
| P6 | Overall Performance | 0.869 | |
| **Fairness** | | | |
| F1 | My performance accurately represents how good a job I do | 0.910 | |
| F2 | Performance appraisals of lecturers' performance on my campus are conducted fairly. | 0.922 | 0.803 |
| F3 | The performance appraisal system for lecturers on my campus is reliable | 0.855 | |

Source: *Output of smartPLS v4.0*

So, indicators that have a value below 0.060 are not used, including F1. Low outer loading values can affect Cronbach's Alpha and Average Variance Extracted values (Hair et al., 2019). After modification, the indicators used in the instrument are all valid based on the outer loading value. The average variance extracted value in **Table 2** shows that each variable has met the rule of thumb, which means that the variables in this study are valid.

**Table 3.** Discriminant Validity Test

|  | Interactive control | Fairness | Performance |
|---|---|---|---|
| Interactive Control | **0.884** |  |  |
| Fairness | 0.656 | **0.896** |  |
| Performance | 0.304 | 0.337 | **0.788** |

Source: *Output of SmartPLS v4.0*

The discriminant validity assessment can be observed by examining cross-loading values. The cross-loading phenomenon and the root value (*AVE*) concept are both relevant in the context of the Fornell-Larcke table. The number, as mentioned above, should exceed the value of the construct when compared to other indicators. **Table 3** shows that the root AVE value for all variables in this study is more significant than the relationship value between variables (Dash & Paul, 2021). So, all these variables are valid.

**Table 4.** Heterotrait-Monotrait Ratio (HTMT)

|  | Interactive control | Fairness | Performance |
|---|---|---|---|
| Interactive Control |  |  |  |
| Fairness | 0.383 |  |  |
| Performance | 0.029 | 0.040 |  |

Source: *Output of SmartPLS v4.0*

Discriminant validity ensures that each latent model's concepts are distinct from other variables (Hair et al., 2019). The evaluation of discriminant validity can be used to determine the accuracy of measuring equipment in performing its measurement function. The discriminant validity assessment is met when the HTMT value between every pair of variables is below 0.090. The variance shared among variables is more significant for their respective measurement items than those shared among other variables. According to the findings presented in **Table 4**, the HTMT test results indicate that the HTMT value for the relationship between interactive control and justice is below the threshold of 0.090, precisely measuring 0.383. This suggests a need for a more significant association between these variables. In general, the assessment of discriminant validity using the heterotrait-monotrait ratio of correlations (HTMT) criterion is satisfied.

**Table 5.** Reliability Test Results

|  | Cronbach's Alpha | Composite Reliability (rho_a) |
|---|---|---|
| Interactive Control | 0.944 | 0.945 |
| Performance | 0.876 | 0.880 |
| Fairness | 0.877 | 0.880 |

Source: *Output of SmartPLS v4.0*

**Table 5** shows that Cronbach's Alpha and Composite reliability values for each variable are more significant than 0.060 and 0.070, respectively (Hair Jr et al., 2021); this shows that the instrument is reliable.

**Table 6.** Collinearity Statistics (VIF)

| Indicator | VIF | Indicator | VIF |
|---|---|---|---|
| IC1 | 2.895 | P1 | 1.579 |
| IC2 | 3.154 | P2 | 2.872 |
| IC3 | 3.580 | P3 | 2.084 |
| IC4 | 4.595 | P4 | 1.682 |
| IC5 | 4.776 | P5 | 1.740 |
| IC6 | 2.810 | P6 | 2.760 |
| F2 | 2.925 | JS | 1.000 |
| F3 | 3.054 | G | 1.000 |
| F4 | 1.935 | | |

Source: *Output of SmartPLS v4.0*

The Variance Inflation Factor (VIF) test assesses the absence of multicollinearity among indicators (Hair et al., 2021). Indicators are considered free from multicollinearity when the Variance Inflation Factor (VIF) findings obtained are less than 5. Based on the findings from the data analysis presented in **Table 6**, it is observed that all the variable indicators exhibit a Variance Inflation Factor (VIF) value below the threshold of 5, indicating a lack of multicollinearity in order to ensure that all indicators are devoid of multicollinearity.

**Table 7.** Hypothesis Results

| Direct Relationship Code | | Original Sample (O) | t-Statistik | p-values | Conclusion |
|---|---|---|---|---|---|
| **Direct effect** | | | | | |
| IC-> P | H1 | 0.151 | 0.915 | 0.056 | Not Supported |
| IC-> F | H2 | 0.656 | 16.340 | 0.000 | Supported |
| F-> P | H3 | 0.238 | 3.952 | 0.000 | Supported |
| **Indirect effect** | | | | | |
| IC->F->P | H4 | 0.156 | 3.812 | 0.000 | Full mediation |
| **Control** | | | | | |
| Woman | | 0.159 | 3.357 | 0.001 | Supported |
| Man | | 1.145 | 1.968 | 0.049 | Supported |
| Employee | | 0.134 | 2.422 | 0.015 | Supported |
| Not in Office | | 1.167 | 2.874 | 0.004 | Supported |

Source: *Output of SmartPLS v4.0*

**Table 7** shows that the interactive control is influenced by 12 per cent of the dependent variable, and other factors outside this study influence the rest. In hypothesis testing, three indicators must be considered as test criteria: the original sample, t-statistic, and p-value. It can be significant if the t-statistic value is more than 1.666 and the p-value is less than 0.050.
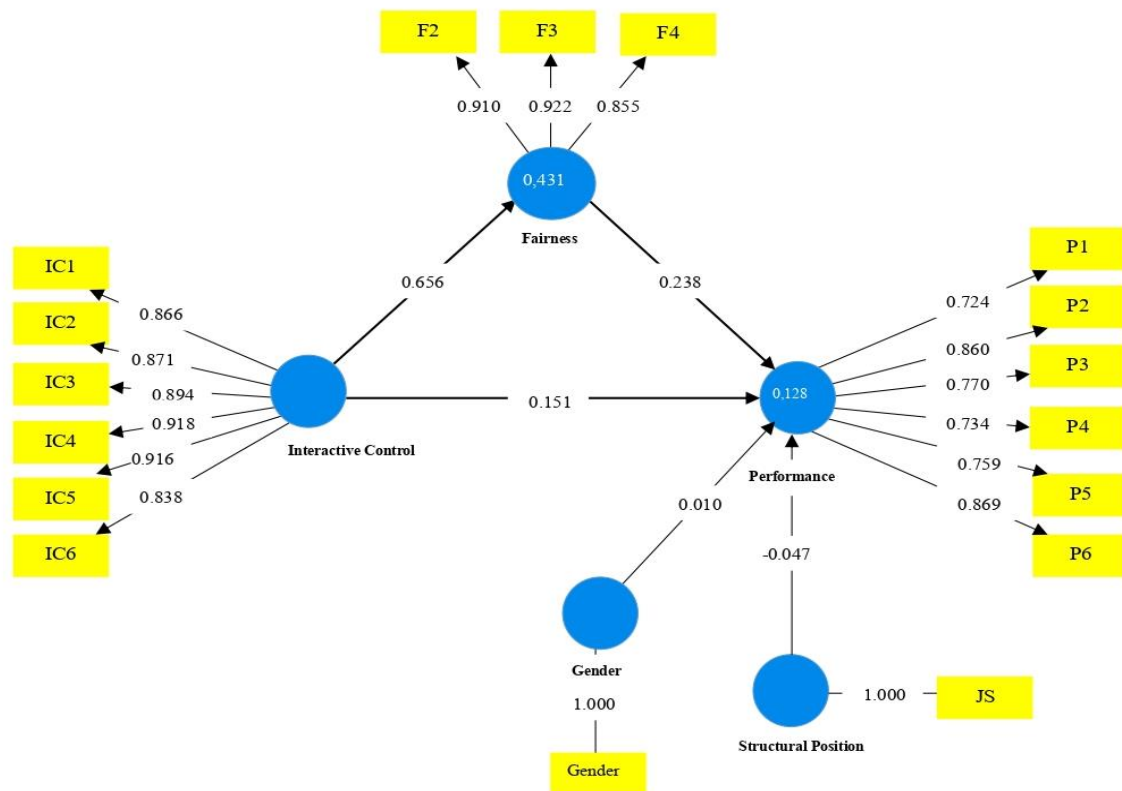
**Figure 2.** Structural Model Assessment Results
Source: *Output of SmartPLS v4.0*

The present investigation involved the administration of a prediction test in order to assess the predictive capacity of the constructed model **Figure 2**. The quality of the observation value generated by the model and its parameter estimations can be assessed by the quantity of Q2 or Q-square (Shmueli et al., 2019). According to (Ali et al., 2018), the Q2 value varies between nol and one, with a higher value indicating a better model fit.

In addition to its visibility via Q-Square, the superior predictive performance of the Partial Least Squares Structural Equation Modeling (PLS-SEM) may be quantified by the lower values of the Root Mean Square Error (RMSE) and Mean Absolute Error (MAE) indicators compared to the Linear Regression Model (LM). According to (Shmueli et al., 2019), while comparing the PLS-SEM indicator to the linear regression model (LM), it is observed that the former exhibits lower values of RMSE and MAE. This suggests that the PLS-SEM model possesses an average level of predictive capability.

**Table 8.** Prediction Results

|     | $Q^2_{predict}$ | PLS-SEM_RMSE | PLS-SEM_MAE | LM_RMSE | LM_MAE |
|-----|-----------------|--------------|-------------|---------|--------|
| F2  | 0.359           | 0.604        | 0.458       | 0.614   | 0.461  |
| F3  | 0.379           | 0.576        | 0.435       | 0.583   | 0.439  |
| F4  | 0.285           | 0.661        | 0.501       | 0.669   | 0.505  |
| P1  | 0.056           | 0.653        | 0.456       | 0.651   | 0.474  |
| P2  | 0.047           | 0.757        | 0.603       | 0.757   | 0.598  |
| P3  | 0.040           | 0.802        | 0.669       | 0.800   | 0.656  |
| P4  | 0.046           | 0.730        | 0.566       | 0.730   | 0.564  |
| P5  | 0.047           | 0.731        | 0.575       | 0.737   | 0.576  |
| P6  | 0.046           | 0.633        | 0.478       | 0.636   | 0.408  |

Source: *Output of SmartPLS v4.0*

The prediction test describes the model's predictive power, which is low, medium or high (Shmueli et al., 2019). The higher the level of prediction of a model, the more it can predict the status of change in other variables. The PLS-SEM RMSE and MAE indices exhibit lower values than the linear regression model (LM), suggesting the model's superior predictive capability. The PLS-SEM indicator has reduced RMSE and MAE values compared to the linear regression model (LM), suggesting that the PLS-SEM model possesses a modest level of predictive capability.
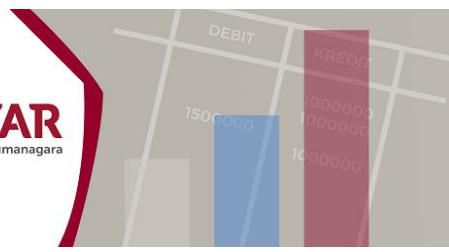
All PLS SEM-RMSE values are smaller than LM-SEM_RSME in the prediction test results above. However, several indicators were obtained with PLS-SEM_RSMSE values higher than LM-SEM_RMSE, namely P1, P3 and PLS-SEM_MAE higher than LM-SEM_MAE, namely P2, P3, P4, and P6. So, the prediction test results show 88 per cent or medium predictive power (Shmueli et al., 2019). So, any change in the justice variable as mediation has a high predictive level of difference in performance.

**Table 9.** Linearity Test

|                                                       | *Original Sample (O)* | *t-Statistik* | *p-values* |
|-------------------------------------------------------|-----------------------|---------------|------------|
| (Interactive Control*Interactive Control) Performance | 0.080                 | 1.522         | **0.128**  |
| (Interactive Control* Interactive Control) Fairness   | 0.007                 | 0.249         | **0.803**  |
| (Fairness* Fairness) Performance                      | 0.014                 | 0.290         | **0.772**  |

Source: Primary data processed by the researchers, 2023

Assert that the purpose of conducting a robustness check in Partial Least Squares (PLS) analysis is to verify the presence of a linear association between the hypothesised variables (Hair et al., 2019). The present inquiry pertains to the study conducted by (Hair et al., 2019), specifically examining the significance of the p-value derived from the quadratic test of exogenous variables. If this p-value is non-significant, it can be inferred that the model exhibits a linear relationship, satisfying the robustness effect. The linearity test is used to determine whether the variables tested have a linear relationship or not significantly. The linearity assumption is met if the p-value exceeds 0.050 (Hair et al., 2019). The linearity

results have a linear relationship between variables if it is not significant. The following are the results of linearity. Linearity test results between interactive control and performance 0.128, which is more than 0.050, are insignificant, so there is a linear relationship. The relationship between exogenous variables (interactive control, justice) with performance that is more than 0.050 is linear. The relationship between exogenous variables (interactive control) and justice is also more than 0.050, so it is linear. Based on the linearity test above, it can be concluded that all exogenous and endogenous variable relationships have a linear relationship.

## DISCUSSION

**The Effect of Interactive Control on Performance.** Based on **Table 7**, This indicates that the hypothesis testing is not fulfilled or H1 is rejected. Thus, interactive control is insignificant to performance.
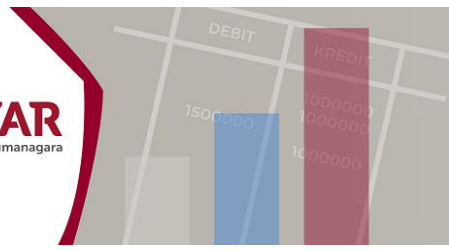
This result is consistent with research by (Siregar, 2020), who found that interactive control does not affect performance. The appropriateness of interactive control might vary depending on the specific job characteristics or task. That trust-based system control can enhance performance. When instructors feel confident in their skills, they are more likely to be motivated to perform their jobs well and generate work that meets organisational standards. Consequently, effective performance cannot be achieved through interactive control (Asiah & Sabaruddinsah, 2021). Certain occupations necessitate heightened organisational skills and clear guidance, whereas others may demand greater self-reliance and flexibility. Hence, the impact of interactive control on performance could differ depending on the particular attributes of the work being undertaken. Furthermore, the effectiveness of interactive control may be undermined if employees do not regard it as equitable. When employees sense excessive control over their jobs or a lack of recognition for their contributions, it can result in a decline in motivation and a fall in performance quality.

Furthermore, it is essential to acknowledge that the effectiveness of interactive control may be diminished when there is a lack of accompanying organisational practices or laws. The performance of employees may be negatively impacted, despite having increased autonomy in their work, if they need access to essential resources or sufficient assistance. The insufficiency of interaction in the form of efficient communication between managers and their subordinates results in suboptimal discourse.(Koivisto & Hamari, 2019). One potential explanation is that the current interactive control system may need to align with the company's specific requirements or be appropriately installed. Furthermore, it is essential to consider additional elements that could contribute to the issue at hand, such as insufficient support from management or staff, as well as limited availability of resources. Leaders must engage in ongoing socialisation efforts to ensure lecturers clearly understand the organisation's vision, mission, and fundamental values. This phenomenon can potentially enhance consciousness, resulting in enhanced performance of lecturers.

**The Effect of Interactive Control on Fairness. Table 7** This suggests that all hypothesis testing criteria have been met or H2 is supported. In conclusion, fairness significantly has a positive effect on performance.

The findings of the hypothesis testing indicate a positive correlation between the level of interaction control exercised by a manager and the degree of justice perceived inside the

organisational context. Colleges that apply interactive testing in the performance measurement system can determine the direction of lecturers' work to achieve organisational goals. The findings of the impact of interactive control on fairness are consistent with the views of goal-setting theory. Lecturers who clearly understand the purposes of the university as stated in the vision and mission will be motivated to carry out their work (Ifenthaler & Yau, 2020). Employees granted increased autonomy in their work processes will likely see their contributions as highly valued, leading to a heightened sense of empowerment. This may enhance individuals' perception of fairness, which pertains to the impartiality of decision-making processes.
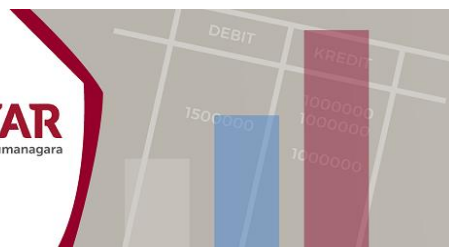
Moreover, if employees are granted increased autonomy in their work procedures, they may perceive a heightened sense of agency about the outcomes they attain. This intervention has the potential to enhance individuals' feelings of fairness. Perceived fairness in the performance appraisal system can affect individual commitment to goal setting. If there is interaction between leaders and subordinates in performance evaluations, individuals will feel that their performance evaluations are fair or impartial. Leaders may, however, feel that the job they assign is not meaningful if they issue directives without considering the implications of their actions. The test results support H2, namely that fairness positively affects performance. The results also follow previous research showing that interactive control positively influences fairness (Su et al., 2022; van Veen-Dirks et al., 2021).

**The Effect of Fairness on Performance. Table 7** This suggests that all criteria in hypothesis testing have been met or that H3 is supported. In conclusion, fairness significantly has a positive effect on performance. The findings from the hypothesis testing conducted on the relationship between fairness and performance indicate that there is indeed an impact of fairness on performance. The findings of this study align with previous research by (Ridwan, 2019), who stated that having transparent and fair plans and goals can influence the way of working and making the right decisions.

Transparent and equitable plans and goals have been emphasised in individuals' work performance and decision-making processes. This aligns with the principles of goal-setting theory, which posits that establishing explicit goals can enhance individual performance effectiveness. When employees see equitable treatment and acknowledgement of their achievements, they are inclined to experience heightened motivation and enthusiasm in their workplace. This phenomenon exerts a beneficial influence on individuals' productivity in the realm of task completion and aim attainment.

The concept of fairness significantly influences the level of individual participation inside a company. When individuals see that they are treated equitably, they are more inclined to actively participate, share their thoughts, and align themselves with the company's objectives. This interaction contributes to enhanced overall performance. Fairness is a significant factor in cultivating individuals' trust in the organisation and its management. When individuals believe that decisions and activities are equitable, they are likelier to exhibit greater trust and commitment towards the company. This fosters a sense of commitment and motivates individuals to produce improved outcomes. This cultivates a feeling of dedication and serves as a driving force for individuals to generate improved outcomes. The findings presented in this study align with other research, indicating that subordinates who see the performance appraisal system as reliable are more inclined to exhibit enhanced levels of motivation and performance (Baird et al., 2020; Su et al., 2022;

Colleges should ensure that their performance evaluation systems are fair and transparent. Lecturers should feel that they are treated fairly and that the performance measures used to evaluate their performance are appropriate to their contribution. (Su et al., 2022)

**The Effect of Interactive Control on Performance through Fairness. Table 7** is the original sample value of 0.156, so the test direction is consistent with the proposed hypothesis. In addition, the t-statistic is 3.812, which means it is more significant than 1.666, and the p-value of 0.000 indicates that it is less than 0.050. This suggests that all criteria in hypothesis testing have been met or that H4 is supported.
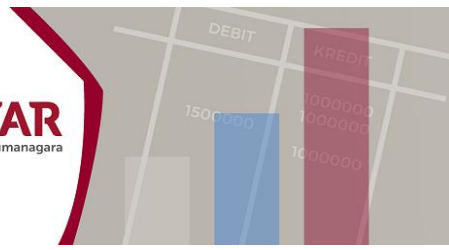
The findings from hypothesis testing show that there is a mediating effect between justice and performance. The principle of goal setting allows individuals to direct their attention towards achieving goals. The management control framework includes an interactive control system where leaders are actively and consistently involved in decision-making and employee-related tasks (Feder & Weißenberger, 2021).

The contentment of individuals with their work environment and the treatment they receive can be influenced by various interactive elements, including leadership, communication, and team interaction. A direct correlation exists between individual pleasure and performance, whereby people who experience satisfaction are likelier to exhibit enhanced performance. Furthermore, it is essential to consider the impact of interactive elements such as rewards, recognition, and the fulfilment of individuals' psychological needs on their motivation inside the workplace. Their motivation level significantly influences the performance of individuals since motivated individuals tend to exhibit higher levels of performance. Employees show higher levels of motivation and commitment when they perceive the control structure to be fair and when their efforts are adequately recognised and rewarded (Kominis et al., 2022). Therefore, the involvement of management in lecturer activities will enhance lecturers' self-assurance in their professional capabilities. Lecturers will have a sense of ease and acknowledge the work's utility and impact on others. This study shows that using controlled performance measures can improve management performance. However, managers must also pay attention to fairness in their performance appraisal system, especially regarding employee distribution and interaction.

## CONCLUSION

This study aims to provide empirical insight into the indirect effect of interactive control on performance. In addition, this study also looks at the mediating role of justice in the relationship between interactive management and implementation. The results of this study indicate the critical part of the indirect effect of interactive control in improving performance through justice. This finding provides an understanding for university leaders about increasing lecturer motivation. In line with that, the results of this study also see the importance of subordinate participation in decision-making. College leaders need to improve the fairness of the performance measurement system. College leaders must build good relationships with subordinates, provide the understanding and involve associates in decision-making to achieve organisational goals. If there is interaction between leaders and associates in performance evaluation, individuals will feel that the performance evaluation is fair or impartial.

This research uses a quantitative approach with a questionnaire, so further analysis can be developed with a qualitative approach to obtain results from different perspectives. The study's variables were interactive control justice in improving lecturer performance. Future research can consider other variables, such as the reward system satisfaction with the performance measurement system.

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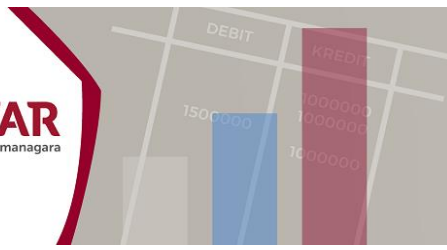
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