



Relationship between Pay Management and Organizational Commitment: A Mediating Role of Job Satisfaction

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ABSTRACT

Recent meta-analyses of the global private higher education sector reveal that a well-designed pay system may fail to attract, retain, and motivate employees to achieve its intended objectives if managers do not implement it effectively. This study investigates the interrelationship between pay management and organizational commitment, incorporating job satisfaction as a mediator. A survey-based method was adopted, yielding 325 responses from employees at private universities in Peninsular Malaysia. The SmartPLS software was used to measure the quality of the measurement model and test the structural model. Structural equation modeling tests revealed three important findings: First, pay management can increase job satisfaction and organizational commitment. Second, job satisfaction can increase organizational commitment. Finally, job satisfaction mediates the relationship between pay management and organizational commitment. In terms of theoretical contribution, this study addresses a gap in the current literature by measuring the mediating effect of job satisfaction on the relationship between pay management and organizational commitment. Regarding methodological robustness, the measurement model demonstrated acceptable validity and reliability. In terms of practical contributions, this study helps practitioners understand various perspectives on pay management and plan an innovation-based pay system to improve the performance of private higher learning institutions amid global competition and challenging circumstances.

Keywords: Pay Management, Job Satisfaction, Organizational Commitment, Private Higher Education Institution, Malaysia

JEL Classifications: M1, M5

1. INTRODUCTION

Financial constraints, intensifying competition, and the need to align academic programs with dynamic labor market demands are some of the most significant challenges confronting higher education institutions globally. These pressures critically affect institutional competitiveness and sustainability in a dynamic global environment (UNESCO, 2026). Therefore, to optimize the transformative potential of the private higher education sector, top management should shift from a traditional pay management paradigm characterized by a rigid pay-based structure toward more

flexible, strategic, and innovation-driven governance frameworks (Huriyah and Chiang, 2025; Wei and Ye, 2026).

Pay management is a core component of strategic HRM and integrated performance management systems, which involves managerial practices for determining and distributing monetary, non-monetary, and psychological rewards to employees in accordance with their employment contracts (Akanmu et al., 2025; Schnacker et al., 2025). This management practice may attract, retain, and motivate competent employees, control personnel costs, ensure fairness, comply with legal requirements, reinforce

ethical behavior, improve work performance, and ultimately support the organizational performance and strategic objectives (Wei and Ye, 2026).

Under the contemporary pay system paradigm, human resource managers and employers act as strategic partners in planning and administering various categories of rewards, including financial components (e.g., base salary structures and performance-based pay), non-financial components (e.g., allowances and benefits), and psychological components (e.g., recognition and career development). These rewards are intended to recognize and enhance organizational effectiveness (OECD, 2025).

Systematic reviews of the private higher education literature reveal individual factors to influence the effectiveness of pay systems namely; staff competency (Wijaya, 2025), academic qualifications, research self-efficacy, time management skills and intrinsic motivation (Huang et al., 2025; Shen et al., 2026); and institutional settings: research support infrastructure, availability of research funds, administrative workload and research culture (Shen et al., 2026), and performance management (Wijaya, 2025). These variables have been widely examined, but few studies have specifically investigated the impact of pay management (Mohamed et al., 2025; Wei and Ye, 2026), thereby supporting the alignment of both tactical and strategic objectives in private higher education institutions.

Recent empirical studies reveal that the effectiveness of well-designed pay systems in private higher education institutions depends largely on their proper implementation. Without effective implementation, these pay systems cannot help to achieve their desired results (Reginaldo, 2024; Wijaya, 2025). Effective pay management consists of communication (employees receive clear and transparent pay information from managers and managers explain the rationale, procedures, and fairness of pay decisions) (Ugochukwu, 2025), participation (employees' opinions are solicited and considered when making compensation decisions) (Sharif et al., 2026), and performance appraisal (high-performing employees receive corresponding salary increases and bonuses) (Akanmu et al., 2025). These practices enhance employees' understanding of compensation, reduce dissatisfaction with rewards, and thus contribute to job satisfaction. These practices enhance employees' understanding of their compensation, both qualitatively and quantitatively, and minimize the dissatisfaction with reward allocation (Kamaruddin and Mohd Zin, 2024; Wijaya, 2025), which can lead to higher job satisfaction in the private higher education institutions (Mohamed et al., 2025; Othman et al., 2019).

Surprisingly, the interrelationship between pay management and job satisfaction has been extensively studied; the role of job satisfaction as an antecedent and mediator remains underexamined in the private higher education literature. Several studies have explained these gaps. First, many prior studies have conceptualized the internal properties of pay management, including its definitions, aims, dimensions, and advantages across different private higher education institutions (Mohamed et al., 2025; Wijaya, 2025). Second, a large body of prior studies has employed a simple association method to describe the interconnection between the

independent variable and dependent variable: (a) Association between pay management and job satisfaction (Ameera Waheeda, 2024); (b) association between pay management and organizational commitment (Radiman et al., 2024); and (c) association between job satisfaction and organizational commitment (Tran et al., 2023). This association is tested using simple behavioral statistical tools (descriptive statistics and bivariate analysis), and the results of this test merely indicate the strength and nature of the association between these variables in the model. The mediating role of job satisfaction is not emphasized in such correlations (Mohamed et al., 2025; Othman et al., 2019).

Finally, numerous practitioners have criticized the limitations of prior studies in helping them improve pay systems in private higher education institutions. This is because many past studies have assessed general employee perceptions of specific pay components (salary range, salary increases, healthcare, leave and retirement plans) and types, levels or amounts of pay for different job groups, particularly private higher education institutions (Guan et al., 2025; Ki et al., 2022), assessed the influence of pay management as a construct on job satisfaction and organizational commitment (Chueasawatthi, 2025), and how and why pay management influences organizational commitment through job satisfaction studies is little known in various private higher education institutions, both within the same country and across different countries (Dipela et al., 2025). Therefore, the study paradigms suggested general findings, and this may not yield sufficient recommendations to support practitioners in understanding the multifaceted aspects of job satisfaction and formulating innovative pay policies to maintain and support their employee motivation, retention, and institutional performance in diverse private higher education environments (Mohamed et al., 2025; Wahyudi et al., 2025).

Therefore, this study presents three notable contributions to the existing literature. First, it emphasizes that pay management plays a more significant role than individual and institutional factors in enhancing job satisfaction (Mohamed et al., 2025) and organizational commitment (Radiman et al., 2024). Second, it integrates pay management features as drivers of job satisfaction and organizational commitment, which receives less attention than individual and institutional factors (Iddrisu and Mumin, 2025; Othman et al., 2019; Radiman et al., 2024). Thirdly, it enriches the employee outcomes literature by positioning job satisfaction and organizational commitment as significant outcomes of pay management, both of which have received relatively limited attention in previous research (Bello, 2020; Rahman et al., 2023). Finally, this study specifically applies the core principles of Herzberg's (1966) Two-Factor Theory to the private higher education sector, which predicts that the influence of pay management on organizational commitment is mediated by job satisfaction (Ghasemy and Elwood, 2023; Lubis, 2024). This prediction can be proven by testing the causal relationship in the research model. Therefore, this situation motivates our research team to address the gap in the literature by simultaneously testing whether job satisfaction is included or excluded as a mediating variable in the relationship between pay management and organizational commitment.

This study is undertaken at private higher education institutions in Malaysia (MPHEIs) in response to the constrained capacity of public universities and the increasing demand for higher education. Its growth accelerated after the enactment of the Private Higher Education Institutions Act 1996, which permitted private institutions to offer degree programs and participate in international collaborations. Recently, the sector has experienced rapid growth, as substantiated by quality assurance frameworks such as the Malaysian qualifications agency and the Malaysian qualifications framework. Today, it plays a significant role in broadening access, cultivating internationalization, and contributing to the growth of the nation's workforce capacity (Fung and Wong, 2024; Mohamed et al., 2025; Yusof et al., 2026).

The establishment of MPHEIs is shaped by a mix of regulation, demand, market forces, globalization, and economic imperatives; they share common structural features with private higher education institutions globally. These higher institutions operate in competitive and market-driven environments, rely on tuition funding, emphasize marketability, and engage in international collaboration (Gopalakrishnan and Vikneswary, 2024; Rakhshani et al., 2026; UNESCO, 2026). Nowadays, human resource management in MPHEIs has changed their traditional management paradigms from rigid job-based pay (e.g., payments and financial benefits are given based on length of service, seniority, and tenure) to flexible pay (e.g., pay and benefits are adjusted according to personnel costs and based on demand), performance-based pay (e.g., pay and bonuses are linked to measurable outputs), and market-aligned pay management (e.g., pay levels are adjusted according to labor market conditions and competition). Under this new paradigm, employers promote open communication, active participation, and development-oriented performance appraisal in managing pay systems, this initiative has raised employees' perceptions that they receive pay commensurate with their contributions (Akanmu et al., 2025; Amin and Mahmood, 2025; Wijaya, 2025), which in turn can attract, retain and stimulate academic and administrative staff to support the competitiveness, education quality, and long-term sustainability of the private education institutions (Chear and Muhammad, 2025; Othman et al., 2019). Furthermore, this study exhibits strong generalizability as its findings can be analytically generalized beyond the Malaysian perspective to enhance employee pay management in private higher education worldwide, which are subject to structural and governance limitations, especially in expanding access, supporting workforce development and promoting internationalization in Asia, the Middle East, developing regions and emerging economies (Mohamed et al., 2025; Sandrasegaran et al., 2024; Sia and Jimmie, 2023).

This study was done to meet four primary outcomes, which are:

1. To examine the interrelationship between pay management and job satisfaction
2. To investigate the connection between pay management and organizational commitment
3. To analyze the association between job satisfaction and organizational commitment
4. To assess the mediating effect of job satisfaction on the relationship between pay management and organizational commitment.

2. LITERATURE REVIEW

2.1. Pay Communication

It refers to the clarity of pay message and interactive communication (Gamage et al., 2024). Pay message is typically optimized when managers clearly explain the specific pay objectives (the appropriate way to earn pay), entitlements (what they will earn), and rules for determining and distributing pay (pay evaluation criteria) (Brown et al., 2023; Schumann, 2024). Managers commonly use interactive communication to determine and distribute pay (pay levels, pay structures, pay determination criteria, and performance-based pay) through discussion, exchange, and information sharing in the process of setting and distributing pay across various work groups (Bamberger, 2023; Gamage et al., 2024). Implementation of such communication will help employees understand clearly the rationale underlying payment decisions, which can foster a mastery-oriented and collaborative work climate (Bamberger, 2023; Schumann, 2024) (Bamberger, 2023; Schumann, 2024).

2.2. Pay Participation

It is associated with employee involvement in participating in both inputs and outputs. Participation in outputs refers to employees' willingness to contribute ideas to the development of the pay system. In contrast, participation in inputs refers to employees' involvement in decisions regarding merit increases, pay-related performance appraisals, performance-based pay, and pay plans (Gamage et al., 2024; Maciejovsky et al., 2025). Implementing such a participatory style will foster positive attitudes among employees toward their pay system, which, in turn, can lead to greater innovation, fairness, trust, talent retention, and overall performance management (Mohamed et al., 2025; Wijaya, 2025).

2.3. Performance Appraisal

From a compensation perspective, it is a systematic assessment of employee performance used to determine payment decisions, such as salary increases, bonuses, incentives, and other financial rewards, based on merit or performance level (Chen et al., 2025; Kpodo, 2024). In a traditional personnel management approach, performance appraisals are commonly used to enforce discipline over employee misconduct. Nowadays, many organizations are shifting to a development-based performance appraisal approach as a strategy to encourage employee incentives (Wang, 2023), improve the delivery of timely feedback, emphasize objectivity and practice structured appraisals (Stanikzai et al., 2024), maintain fairness and accuracy in the appraisal process (Musa et al., 2024), and value employees' contributions to personal and professional growth (Musa et al., 2024; Stanikzai et al., 2024).

2.4. Job Satisfaction

It refers to employees who have a positive attitude towards their jobs (Mohamed et al., 2025; Rahman et al., 2026). Job satisfaction is generally conceptualized into two main dimensions. First, intrinsic job satisfaction is significantly linked to the content of the job itself, encompassing the meaning and enjoyment derived from performing it. Second, extrinsic job satisfaction is related to external dimensions of the job, such as work environments, task structure, compensation, interpersonal relationships, and organizational policies (Ismail et al., 2026; Mohamed et al., 2025;

Zhang and Gandham, 2025). Further studies demonstrate that high satisfaction with these dimensions can lead to increased overall job satisfaction (Alsuwailam, 2023; Ravesangar et al., 2025; Yusoff et al., 2024).

2.5. Organizational Commitment

It is rooted in the three-component conceptualization theory of organizational commitment (Meyer and Allen, 1991), which posits that organizational commitment comprises three components: first, affective commitment (individuals want to stay because of their emotions and identification with the organization). In private higher education institutions, employees typically demonstrate this form of commitment by speaking positively about the university and safeguarding its reputation. They often show a strong sense of belonging, willingly contribute beyond their formal job responsibilities, care deeply about the institution's success, and display high levels of dedication, loyalty, and emotional bond to the institution (Budiyarti et al., 2026; Karim, 2023). Second, calculative commitment (employees remain with an organization to reduce high personal or financial costs). In the private higher education sector, employees typically demonstrate calculative commitment when they believe that leaving the institution will result in a loss of salary, benefits, job security, or other valuable job advantages. They may also perceive the costs of leaving the institution as high, have limited alternative employment opportunities, face economic pressures that make it difficult to change jobs, or consider the costs to be rational (Farhan et al., 2024; Ramli and Salleh, 2025).

Third, normative commitment (employees remain because they have a notion of responsibility or moral obligation to the organization). In private higher education institutions, employees demonstrate this obligation by exhibiting a strong sense of moral responsibility and loyalty to the organization. They feel a duty to remain with and contribute to the institution, driven by a belief that staying and supporting the organization is the right course of action. This commitment is also reflected in feelings of reciprocity for the opportunities and support provided by the institution, as well as a voluntary sense of professional responsibility to help achieve its goals and sustain its success (Chen et al., 2024; Ramli and Salleh, 2025; Subhaktiyasa, 2025). Recent studies show that personnel with high levels of affective, calculative, and normative commitment are more likely to feel connected to their organizations and are willing to remain and contribute to their organizations' desired outcomes (Kasim et al., 2025; Subhaktiyasa, 2025).

2.6. Relationship between Pay Management and Employee Outcomes

Pay management is parallel with the essence of workplace interaction theory. For example, social exchange theory (Blau, 1964; Homans, 1961) explains that social relationships assembled through the interchange of valuable resources (benefits versus costs) can influence various types of individual actions. Expectancy theory (Vroom, 1964) suggests that the expectation of valuable outcomes may inspire individuals to perform positively. Besides, goal setting theory (Locke and Latham, 1990) posits that performance standards that are clear, challenging, and achievable

objectives can inspire individuals to implement good practices. Hence, pay communication typology model (Marasi and Bennett, 2016) states that high pay secrecy will discourage superiors from communicating salary information to employees, and employees will adopt formal salary communication; implementing a moderate pay secrecy policy will stimulate superiors to communicate some pay information to employees and employees will adopt informal pay communication; adopting a moderate pay secrecy policy will inspire employees to adopt informal salary communication; and implementing a high pay openness policy will motivate superiors to communicate all pay information to employees and possibly outsiders, as well as discuss salary communication openly.

Additionally, Signaling Theory (Connelly et al., 2025; Guest et al., 2021) argues that signals (e.g., performance-based outcomes) are often used by senders (managers) to convey information to receivers (employees). When both parties readily understand the meaning of signals, this may lead to more desirable employee outcomes (Chen et al., 2025; Geradine and McWha-Hermann, 2024). These theories suggest that the concepts of exchange, expectation fulfillment, goal achievement, communication, and signaling in the pay system are usually translated into effective pay management practices, namely communication, participation, and performance appraisal. Empirical evidence from the private higher education sector supports that such pay management dimensions can shape a variety of employee outcomes (Aniah et al., 2025; Muhammad et al., 2025).

Previous studies have consistently identified salary communication as an important determinant of job satisfaction. According to Schumann (2024) and Klindžić (2025), effective salary communication is usually implemented through two approaches: First, clear salary communication involves providing transparent information about the salary structure, salary eligibility, and the criteria used to determine and distribute salaries, as well as clearly linking salary to performance. Second, interactive communication emphasizes structured and ongoing dialogue between management and employees, including sharing salary-related information, encouraging upward feedback, and ensuring that employee input is considered in decision-making. This communication practice will increase employees' understanding of the salary system, salary criteria, and salary-related decisions, thereby reducing uncertainty and strengthening perceptions of fairness. Furthermore, such communication practices can increase job satisfaction (Bilgin et al., 2025; Conroy and Vogus, 2025; Ramadhan et al., 2025). Thus, it was hypothesized that:

H₁: Pay communication is positively related to job satisfaction.

Previous studies have recognized pay participation as a prominent determinant of job satisfaction. According to Abd Razak and Ali (2021) and Gan (2023), pay participation comprises two complementary dimensions: Participation in pay input and participation in pay output, although the final pay decision remains management's responsibility. Participation in pay input occurs when employees are involved in processes that influence pay outcomes, such as pay increases and bonuses, through performance appraisal discussions, goal setting, self-assessment, salary review negotiations, and participation in faculty or human resources

committees (Akanmu et al., 2025; Huriyah and Chiang, 2025). On the contrary, participation in pay output occurs when employees are involved in understanding, interpreting, and responding to pay outcomes, such as pay increases, bonus distributions, and incentive awards (Schumann, 2024; Henn et al., 2025).

Both forms of participation are facilitated by communication of pay decisions, explanations of compensation components, feedback and appeal mechanisms, and opportunities for employees to assess the fairness of pay allocations, which help employees better understand how pay is determined, how compensation is linked to performance outcomes, and how pay components (e.g., base pay, raises, allowances, incentives, bonuses, and promotions) are structured, and the reasons behind pay distribution rules without doubt and uncertainty. This can contribute to higher job satisfaction (Guan et al., 2025; Shuxia et al., 2025). Thus, it was hypothesized that:

H₂: Pay participation is positively related to job satisfaction.

Previous studies have identified performance appraisal as an influential antecedent of job satisfaction. According to Wang (2023), Stanikzai et al. (2024), and Akanmu et al. (2025), formal appraisal systems are widely used to support compensation decisions in both job-based and performance-based pay systems. Under a job-based pay system, performance appraisals are conducted to evaluate job requirements, responsibilities, and standards, ensuring that employees are appropriately aligned with established job grades and pay structures. The appraisal results are primarily used to determine salary progression within designated pay ranges and eligibility for promotion to higher positions, rather than to create substantial pay differences among employees, thereby maintaining internal equity (Akanmu and Duh, 2026; Wang, 2023).

Conversely, under a performance-based pay system, performance appraisals focus on evaluating employees against predetermined criteria and differentiating them by their levels of contribution. The results of this assessment will be used to determine merit-based salary increases, performance bonuses, incentives, and promotion opportunities to recognize high-performing employees and strengthen the link between compensation and individual achievement and contribution (Akanmu et al., 2025; Mather and Bam, 2025). When employees perceive that compensation decisions are based on objective and well-communicated evaluation criteria, this transparency can foster job satisfaction (Ismail et al., 2022; Santhapparaj and Alam, 2005). Thus, it was hypothesized that:

H₃: Performance appraisal is positively related to job satisfaction.

Previous research supports that pay communication is an antecedent of organizational commitment. de Barros et al. (2024) and Boonprawes et al. (2025) highlight that managers typically rely on formal and informal two-way communication channels, including face-to-face interactions and digital platforms, to communicate compensation policies and practices effectively. These channels facilitate ongoing dialogue, employee feedback, and participation in decision-making processes such as performance appraisal discussions, collective bargaining committees, and team meetings.

Through these communication practices, employees are given structured opportunities to express their opinions and concerns about compensation clearly, promptly, and appropriately. When salary-related information is communicated transparently, and employees trust it, it can strengthen their sense of fairness and, in turn, increase organizational commitment (Ma, 2022; Rahman et al., 2023). Therefore, it was hypothesized that:

H₄: Pay communication is positively related to organizational commitment

Past research advocates that pay participation is a determinant of organizational commitment. Halid et al. (2024) and Akanmu et al. (2025) reveal that pay participation generally occurs at the individual and group levels within the private higher education sector. At the individual level, academicians and administrators discuss performance measures, merit-based salary adjustments, financial rewards, and promotion decisions tied to performance outcomes. At the group level, academicians and administrators are collectively involved in faculty committees and institutional governance structures that shape compensation policies and reward systems (Ooi et al., 2022; Wahyudi et al., 2025). The implementation of such participation styles will increase employees' understanding of the relationships among performance and pay, between pay policies and actual job demands, and between pay outcomes and decision-making, thereby strengthening organizational commitment (Halid et al., 2024; Rahman et al., 2023).

H₅: Pay participation is positively related to organizational commitment.

Previous research recognizes that performance appraisal is a predictor of organizational commitment. Hussain et al. (2025) describe performance appraisal as a standardized and well-documented system. Although academics and administrators play different roles, their appraisal systems share similar structures and objectives, such as being goal-oriented, having multiple dimensions, using quantitative and qualitative criteria to assess performance, incorporating multiple sources of feedback, adopting a periodic review cycle, using transparent appraisal procedures, and digital platforms to enhance efficiency and fairness. This appraisal system balances accountability, employee development, and institutional performance goals, as reflected in rewards, promotions, and career development opportunities (Akanmu et al., 2025; Silaji et al., 2026). Furthermore, this appraisal practice can enhance their organizational commitment (Ghani et al., 2024; Pepple and Ambilichu, 2024). Thus, it was hypothesized that:

H₆: Performance appraisal is positively related to organizational commitment.

2.7. Relationship between Job Satisfaction and Organizational Commitment

A large body of research has shown that intrinsic and extrinsic job factors influence job satisfaction. Intrinsic job satisfaction is strongly tied to the nature of the job, including meaningful and interesting tasks, a sense of accomplishment and recognition, autonomy and responsibility, opportunities for growth and development, the use of skills, and feedback (Gessesse and Premanandam, 2023; Nizam et al., 2025). Alternatively, extrinsic job satisfaction is connected with the broader work environment

and organizational context, including fair pay and benefits, supportive supervision and organizational policies, conducive working conditions, positive workplace relationships, job security, and work-life balance (Abdullah et al., 2023; Rino et al., 2026; Wartono, 2024). Consequently, this situation can contribute to increased organizational commitment (Manurung et al., 2022; Shaikh and D'Silva, 2021; Tran et al., 2023). Thus, it was hypothesized that:

H₇: Job satisfaction is positively related to organizational commitment.

2.8. Job Satisfaction as a Mediator

Job satisfaction is a key element in Herzberg's two-factor theory (1966), which distinguishes between two categories of job characteristics: First, intrinsic work relates to the content of the job itself, including achievement, recognition, autonomy, meaningful work, and potential for career growth. Second, extrinsic work is associated with the work environment, including pay, supervision, organizational policies, working conditions, and job security. In the context of private higher education institutions, this framework suggests that intrinsic and extrinsic work antecedents jointly shape employees' job satisfaction, which in turn can be a key determinant of positive employee outcomes (Ghasemy and Elwood, 2023; Lubis, 2024).

This theoretical perspective is strongly supported by the private higher education literature, which shows that three key features of pay management significantly influence job satisfaction. First, open communication helps employees clearly understand how pay decisions are made, including why pay varies across job categories, how performance affects pay increases, and what criteria are required for promotions and salary progression (Braje and Kuvač, 2022). Second, active participation emphasizes employee involvement and voice in reward-related decisions, such as the design of compensation structures, salary and bonus criteria, and performance-salary linkage systems (Sharif et al., 2026). Third, developmental performance appraisals ensure that employees understand the appraisal system that is based on clear performance indicators, structured evaluation criteria, and alignment with institutional goals. This approach to performance appraisal systems can increase employees' understanding and positive perceptions that their performance outcomes are recognized, rewarded, and/or promoted (Akanmu et al., 2025). Further research indicates that implementing such pay management will strongly enhance job satisfaction, thereby potentially strengthening organizational commitment (Ardiansyah and Suhud, 2022; Vongchavalitkul et al., 2023). Thus, it is hypothesized that:

H₈: Job satisfaction mediates the relationship between pay communication and organizational commitment

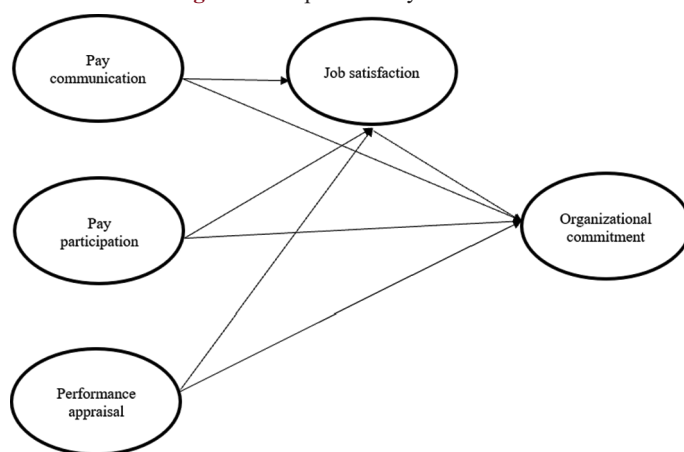
H₉: Job satisfaction mediates the relationship between pay participation and organizational commitment

H₁₀: Job satisfaction mediates the relationship between performance appraisal and organizational commitment.

2.9. Study Framework

The study framework was developed based on theoretical and empirical evidence, as illustrated in Figure 1. It explains four major relationships: (a) Between pay management and job

Figure 1: Proposed study framework



satisfaction; (b) between pay management and organizational commitment; (c) between job satisfaction and organizational commitment; and (d) between pay management, job satisfaction, and organizational commitment.

3. METHODOLOGY

3.1. Sample and Procedure

Survey methods have been used as a research strategy to enable cross-sectional data collection in the examined higher education institutions. This method is easier to administer, reduces logistical complexity, and minimizes attrition, helping researchers efficiently collect relevant, high-quality data from many busy respondents with multiple commitments. Data collected from this method can increase statistical power and enhance the generalizability of findings (Capili, 2021). Many established universities and colleges in Malaysia are concentrated in Peninsular Malaysia. Multiple factors may explain this pattern: (1) The region's strong economic and urban development, higher population density, (2) well-developed infrastructure and transportation networks, and (3) its long history of educational development. Nowadays, Peninsular Malaysia continues to serve as the primary focus for the expansion and establishment of private universities and colleges.

This study employed a purposive sampling technique to distribute 1000 survey questionnaires to academic and administrative staff at the examined higher education institutions. Of the number, 325 (32.5%) usable survey questionnaires were obtained by the researchers. They completed the questionnaires voluntarily, anonymously, and with informed consent. In addition, this sampling technique was adopted because the private institution's management was unable to disclose a full list of registered employees due to confidentiality restrictions. Therefore, these limitations prevented the researchers from using a random sampling technique to select respondents. To ensure valid and reliable data collection through such a sampling technique, this study included respondents with relevant operational knowledge and experience to explain the nature and characteristics of pay management, job satisfaction, and organizational commitment, as well as the interconnections among these variables in this study's context.

SPSS software was first used to filter survey data for errors by removing missing values, suspicious answers, and Skewness and Kurtosis values $>\pm 2.0$ (Hair et al., 2017). Sample sufficiency is measured using a non-statistical power-based standard to satisfy the objective in question (Memon et al., 2020). Established rules of thumb guide this procedure, suggesting that the study sample should meet several important requirements. First, the external loading of the measurement model should exceed 0.70.

Second, the sample size should be at least 10 times the largest number of formative indicators in the structural model (Hair et al., 2017). Third, for complex models with many parameters, a minimum sample size of 200 is recommended (Kline, 2016). Finally, the measurement indicators should demonstrate strong effect sizes and high reliability (Hair et al., 2017; Peng and Lai, 2012). This study's sample met these requirements, indicating that the estimates are stable and reliable for PLS-SEM path analysis models (Memon et al., 2020). Then, response bias is examined using Kock's (2015) common method bias in PLS-SEM, where the values of the variance inflation factor (VIF) for the latent variables were smaller than the 3.30 threshold (Kock, 2015; Jiang et al., 2025), signifying that response bias is unobserved in the sample data.

3.2. Measures

The survey questionnaire was designed in accordance with the organizational pay literature. A back-translation method was used, involving translation from English to Malay and from Malay to English by professional proofreaders. This method is designed to ensure semantic equivalence, linguistic accuracy, and conceptual consistency between the source and translated versions, thus minimizing translation bias and increasing the validity and reliability of the measurement scale (Brislin, 1970). The survey questionnaire has four parts. First, pay communication (COMN) comprises 5 items adapted from the pay transparency literature (Smit and Montag-Smit, 2019; Stofberg et al., 2022). An example item is "My pay system is transparent and open". Second, pay participation (PART) has 4 items adapted from pay participation literature (Ismail and Anuar, 2017; Khalid and Nawab, 2018). An example item is: "Employees are involved in making pay decisions". Third, the performance appraisal (APPR) comprises 3 items adapted from the performance appraisal literature (Dasanayaka et al., 2021; Stanikzai et al., 2024). An example item is "My immediate boss discusses with me job performance standards that influence my pay increases". Fourth, job satisfaction (JSFN) has 5 items adapted from the job satisfaction literature (Mehrad, 2021; Mgaiwa, 2023). An example item is "To what extent are employees satisfied or dissatisfied with their job?" Finally, organizational commitment (ORCM) has 3 items adapted from Meyer and Allen's (1991) organizational commitment scale. An example item is "I feel committed to my institution". All items were assessed using a seven-point Likert-type scale, with scores ranging from 1 (strongly dissatisfied/disagree) to 7 (strongly satisfied/agree). Respondent characteristics were treated as control variables as this study prioritized employee perceptions.

3.3. Data Analysis

This study employed SmartPLS to analyze the survey data because it is well-suited to exploring and predicting complex

research models with non-normal, categorical, and/or ordinal data, relatively small sample sizes, and multiple latent constructs (Hair et al., 2017). The analysis was conducted in two main stages: The measurement model was first assessed using the PLS algorithm to ensure the validity and reliability of the research instrument before proceeding to structural analysis (e.g., Jing et al., 2026; Ridzuan et al., 2024). After that, the structural model was examined using several procedures, namely Bootstrapping to test the significance of the relationships, blindfolding to assess the relevance of the predictions, PLS Predict for out-of-sample predictions, and importance-performance map analysis (IPMA) to identify the relative importance and performance of the constructs. In addition, mediation analysis was conducted using the approach proposed by Zhao et al. (2010) to determine the mediation effect size in the study framework.

4. RESULTS

4.1. Respondents' Characteristics

Table 1 shows that most participants were female (57.2%), aged between 26 and 30 years (47.1%), bachelor degree holders (48.3%), academic staff (55.7%), academic division (78.8%), served >5 years (80.6%), permanent staff (75.7%), and had a monthly salary less than MYR1,500 (46.2%).

4.2. Measurement Model

Table 2 shows that all constructs have average variance extracted (AVE) values over 0.50 (Henseler et al., 2009) and composite

Table 1: Respondents' characteristics (n=325)

Demographic indicator	Category	Frequency	Percentage
Gender	Male	139	42.8
	Female	186	57.2
Age	<25 years	70	21.5
	26-30 years	153	47.1
	31-35 years	51	15.7
	36-40 years	30	9.2
	>41 years	21	6.4
Education	Secondary School Certificate	34	10.5
	Diploma	82	25.2
	Bachelor	157	48.3
	Master and PhD	52	16.0
	Professional and Management Group	82	25.2
Position	Supporting Group	62	19.1
	Academic Staff	181	55.7
	Academic	256	78.8
Division	Non-Academic	69	21.2
Length of service	<5 years	262	80.6
	6-8 years	38	11.7
	9-11 years	19	5.9
	>12 years	6	1.8
Type of service	Permanent	246	75.7
	Probation	16	4.9
	Contract	63	19.4
Monthly salary	<1500	150	46.2
	1501-2500	117	36.0
	2501-3500	47	14.4
	3501-4500	8	2.5
	>4501	3	0.9

reliability (CR) values over 0.80 (Nunnally and Bernstein, 1994), indicating that all constructs satisfied the convergent validity and reliability requirements. This method has been employed in previous studies, including those by Li et al. (2025) and Jing et al. (2025).

Table 3 shows that the values of heterotrait-monotrait ratio of correlation (HTMT) are <0.90, and the values of interval bias in parentheses are <1.0 (Hair et al., 2017), demonstrating that all constructs satisfied the discriminant validity requirements.

Table 4 shows that all constructs had means between 4.0055 and 4.4846, indicating that respondents' perceptions for each construct range from a high level (4) to the highest level (7). Additionally, all constructs had VIF values below 5.0, indicating that collinearity is not a problem in the sample data (Hair et al., 2017).

4.3. Structural Model Assessment

The model goodness-of-fit test showed that the standard root mean square residual value was <0.062 (Hair et al., 2017), indicating a good fit. The mediation effect test indicated that JSFN was a partial mediator (Zhao et al., 2010). The effect size for the association between specific constructs was assessed based on the f^2 value: 0.02 (small), 0.15 (moderate), and 0.26 (large) (Cohen, 1988). This test showed that the effects of COMN on JSFN (0.120) and ORCM (0.132) were small. The effect of PART on JSFN (0.087) was small. The effect of PART on ORCM (0.002) was weak. The effect of APPR on JSFN (0.178) was medium. The effect of APPR on ORCM (0.075) was small. The effect of JSFN on ORCM (0.075) was small. Blindfolding tests assess the predictive relevance of exogenous variables based on Q^2 values greater than zero (Hair et al., 2017). This test confirms

that JSFN ($Q^2 = 0.339$) and ORCM ($Q^2 = 0.295$) have achieved predictive relevance.

Table 5 presents the results of the PLS prediction. The Q^2 prediction values for LM-RMSE and PLS-SEM are all above zero, showing that the prediction errors are symmetrically distributed. Further, most indicator values in PLS-SEM are lower than those in LM-RMSE, indicating the model's strong predictive power (Shmueli et al., 2016).

Finally, the IPMA results show that ORCM (56.755) has the highest performance score, followed by APPR (55.522), JSFN (51.505), COMN (50.755), and PART (42.971). These findings indicate that pay participation represents a critical management area that practitioners should prioritize to improve overall pay management performance.

4.4. Direct Effect Model and Mediating Model Testing

The Bootstrapping at 5,000 with sample replacement is used to test the hypotheses (Hair et al., 2017). Table 6 presents the results of testing the model strengths and hypotheses for the direct effects and mediating model. The findings show that COMN, PART explained 53% of the variance in JSFN, and APPR, 41% of the variance in ORCM was explained by COMN, PART, and APPR, 35% of the variance in ORCM was explained by JSFN, and COMN, PART, APPR, and JSFN explained 35% of the variance in ORCM. These results exceed the 0.26 threshold (Cohen, 1988), showing that the models have a large effect.

Further, the hypotheses testing results for the direct effects model display that H_1 ($\beta = 0.282$; t -value = 6.153), H_2 ($\beta = 0.266$; t -value = 4.856), H_3 ($\beta = 0.353$; t -value = 7.596), H_4 ($\beta = 0.328$; t -value = 6.754), H_5 ($\beta = 0.047$; t -value = 2.109), H_6 ($\beta = 0.153$; t -value = 4.571), and H_7 ($\beta = 0.591$; t -value = 14.362), all hypotheses were supported. These results confirmed that the COMN, PART, and APPR predict JSFN and ORCM, while JSFN predicts ORCM. The hypothesis testing outcomes for the mediating model demonstrate that H_8 , H_9 , and H_{10} ($\beta = 0.294$; t -value = 0.348) were all supported. This outcome confirmed that JSFN mediates the relationship between pay management and ORCM.

Figures 2-4 illustrate the hypothesis testing results graphically.

5. DISCUSSION

This study was primarily conducted to examine the impact of pay management on organizational commitment with job satisfaction as a mediating variable. This study offers three major implications: Theoretical contribution, methodological robustness, and practical contribution. Concerning the theoretical contribution, this study shows three significant outcomes: First, pay management is an

Table 2: Measurement model for constructs

Construct	Indicators	Loading	AVE	CR
COMN	creat5	0.831	0.678	0.913
	goal2	0.820		
	prac4	0.842		
	value3	0.865		
	open1	0.756		
PART	award23	0.852	0.651	0.881
	mech26	0.802		
	qsrew16	0.745		
	train24	0.824		
APPR	consid44	0.879	0.778	0.913
	obser42	0.880		
	stand41	0.887		
JSFN	boss57	0.738	0.660	0.906
	indust60	0.799		
	promot62	0.833		
	sugges63	0.821		
	waymgt61	0.866		
ORCM	move77	0.863	0.683	0.866
	place74	0.794		
	uphold76	0.820		

Table 3: Discriminant validity

Construct	COMN	PART	APPR	JSFN
JSFN	0.609 (0.191, 0.375)	0.708 (0.153, 0.372)	0.696 (0.265, 0.439)	
ORCM	0.669 (0.205, 0.443)	0.584 (0.057, 0.156)	0.575 (0.265, 0.439)	0.708 (0.173, 0.424)

Values within the parentheses refer to the values of confidential interval bias at 2.5% and 97.5%

antecedent of employee outcomes (H_1 , H_2 , H_3 , H_4 , H_5 , and H_6 were supported). This finding is consistent with the essence of social exchange theory (Blau, 1964; Homans, 1961), expectancy theory (Vroom, 1964), Goal setting theory (Locke and Latham, 1990), the pay communication typology model (Marasi and Bennett, 2016), and signaling theory (Connelly et al., 2025; Guest et al., 2021), which suggest that open communication, active participation, and development-oriented performance appraisals in pay systems can drive positive employee outcomes.

Table 4: Variance inflation factor and descriptive statistics

Construct	Mean	Standard deviation	Variance inflation factor	
COMN	4.0055	1.42278	1.325	1.493
PART	4.4846	1.40276	1.706	1.855
APPR	4.3344	1.36623	1.491	1.753
JSFN	4.0942	1.32362		2.104
ORCM	4.4031	1.19495		

The essence of these theories is strongly supported by prior studies on pay management in the private higher education sector. Evidence shows that the open communication (e.g., clarity and transparency), active participation (e.g., valuing employee voice), and development-oriented performance appraisal (e.g., feedback aimed at improving performance) in pay systems will enhance employees' understanding and reduce misperceptions regarding pay structures, allocated pay levels, and the rules governing pay determination and distribution. As a result, this management practice can contribute to stronger job satisfaction (Conroy and Vogus, 2025; Shuxia et al., 2025; Stanikzai et al., 2024) and organizational commitment (Halid et al., 2024; Pepple and Ambilichu, 2024; Rahman et al., 2023).

Second, job satisfaction is a determinant of organizational commitment (H_7 was supported). This finding has received backing from prior studies in the private higher education institutions, which reveal that satisfaction with internal job factors (nature of

Table 5: PLS predict test

Items	PLS SEM	LM RMSE	LM RMSE-PLS SEM	PLS SEM-LM RMSE	PLS SEM $Q^2_{predict}$	LM RMSE $Q^2_{predict}$
indust60	0.819	0.837	0.018	-0.018	0.280	0.247
waymgt61	0.761	0.780	0.019	-0.019	0.417	0.388
sugges63	0.822	0.839	0.016	-0.016	0.271	0.241
promot62	0.785	0.795	0.056	-0.056	0.347	0.330
boss57	0.788	0.788	0.000	0.000	0.352	0.353
place74	0.780	0.809	0.029	-0.029	0.247	0.190
move77	0.697	0.699	0.002	-0.002	0.361	0.357
indust60	0.819	0.753	-0.066	0.066	0.171	0.159

Figure 2: Outcomes of H_1 , H_2 , H_3 , H_4 , H_5 , and H_6

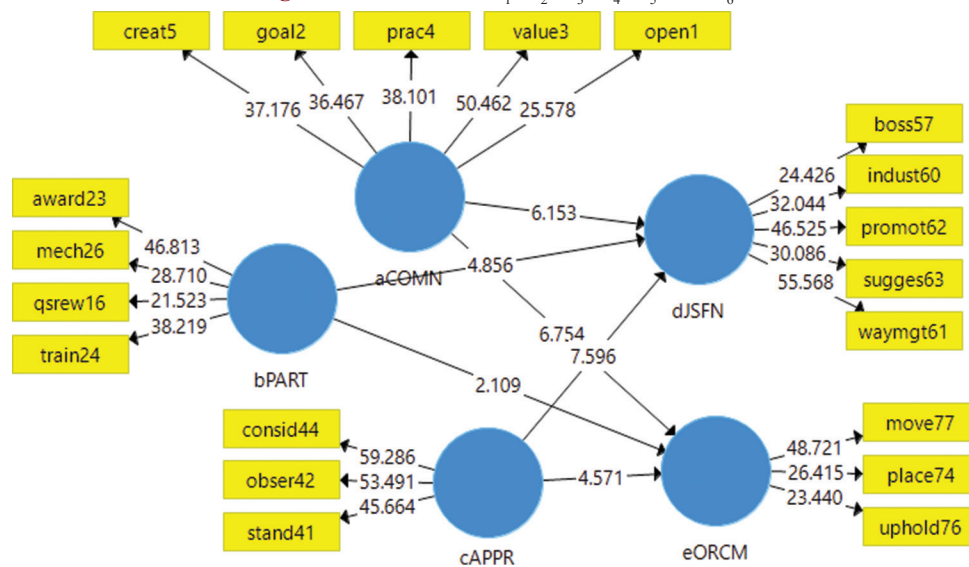


Figure 3: Outcomes of H_7

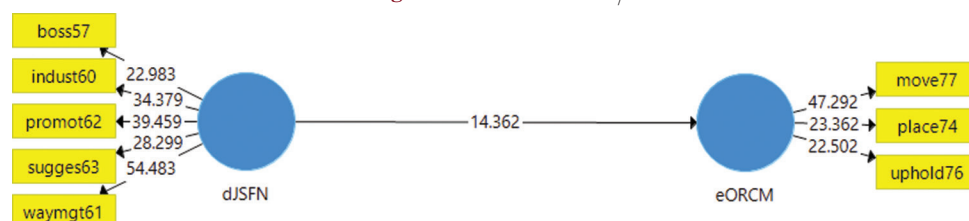
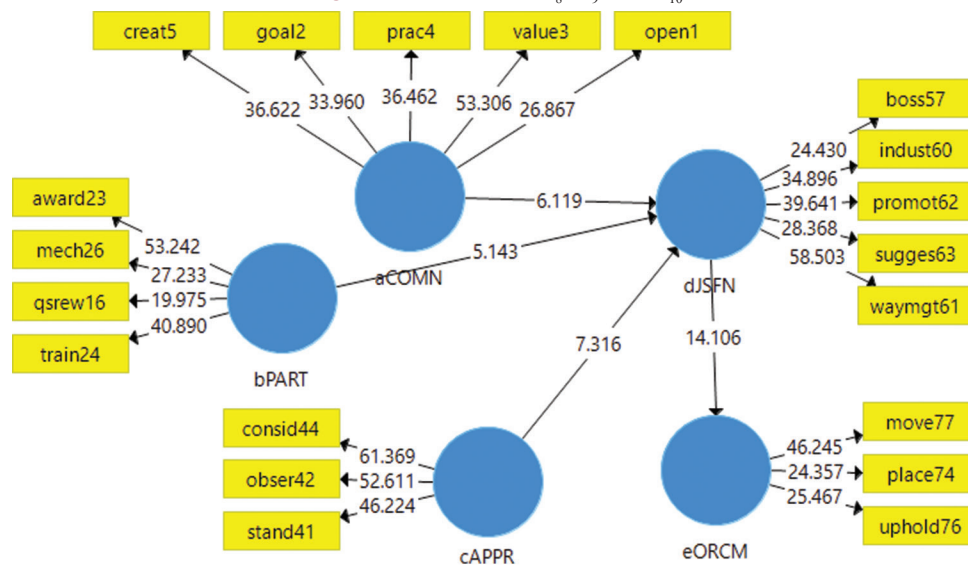


Figure 4: Outcomes of H_8 , H_9 , and H_{10} **Table 6: Hypothesis testing for the direct effects model and mediating model**

Hypothesis	(β)	t-value	Decision	R ²
COMN → JSFN	0.282	6.153	Significant	0.525
PART → JSFN	0.266	4.856	Significant	
APPR → JSFN	0.353	7.596	Significant	
COMN → ORCM	0.328	6.754	Significant	0.413
PART → ORCM	0.047	2.109	Significant	
APPR → ORCM	0.153	4.571	Significant	
JSFN → ORCM	0.591	14.362	Significant	0.349
COMN → JSFN Δ ORCM	0.590	14.106	Significant	0.348
PART → JSFN Δ ORCM				
APPR → JSFN Δ ORCM				

Significant at t-value > 1.96; Standardized Beta = β

the work itself) and external job factors (work environment and organizational context) will strongly invoke job satisfaction, which can lead to greater organizational commitment (Manurung et al., 2022; Tran et al., 2023).

Moreover, job satisfaction is confirmed to mediate the relationship between pay management and organizational commitment (H_8 , H_9 , and H_{10} were supported). These findings are align with the two-factor theory (Herzberg, 1966), which states that two main factors influence employee outcomes: (a) The content of the job itself, which consists of intrinsic components, such as achievement, recognition, autonomy, meaningful work, and career growth; and (b) the work environment, which includes extrinsic components, such as pay, supervision, organizational policies, working conditions, and job security. The application of this theory to pay management in private higher education institutions shows that job satisfaction is an important outcome of open communication, active participation, and development-oriented performance appraisal. Job satisfaction can lead to enhanced organizational commitment (Ardiansyah and Suhud, 2022; Vongchavalitkul et al., 2023).

In terms of methodological robustness, the measurement model satisfactorily met the established standards for validity and reliability analyses, thereby enhancing the accuracy and

reliability of the research outcomes. Regarding practical contributions, the IPMA results highlight that pay participation is a critical management issue in the studied organizations. Lack of employee involvement in the pay systems can reduce motivation and commitment, reinforce perceptions of non-transparency, restrict opportunities for employee voice, and inhibit innovation and idea generation. If left unaddressed, this issue can distort employee perceptions of pay management and contribute to negative work behavior. To address the lack of pay participation, practitioners should consider the following aspects: Firstly, managers should be encouraged to implement fair treatment by involving employees in pay designs and administrations, providing guidance and advocacy on pay-related issues, and using pay as an instrument to increase motivation, engagement, and build trust while ensuring internal equity. This practice can increase employee acceptance and support for their organizations' pay systems.

Secondly, relationship-oriented leadership should be prioritized by motivating management staff to manage payroll practices with a strong emphasis on trust, respect, communication, and employee well-being, rather than focusing solely on the technical or financial aspects of payments. This leadership practice can address individual employees' needs and complaints and strengthen their social exchange relationships, thereby enhancing positive employee attitudes and behaviors. Thirdly, participatory decision-making in pay systems should focus on increasing fairness and trust by setting clear objectives, consistent and job-related pay criteria, conducting pay equity audits and closing pay gaps, explaining pay decisions confidently and consistently, supporting appeals or revisions of pay system rules transparently, and involving employee representatives in designing or revising pay systems. This participation can encourage employees to reduce errors at work, improve performance, and engage in innovative behavior.

Fourthly, the quality of the relationship between organizational leaders and employees should be emphasized, as it helps

clarify how pay, performance, and value relate in measurable terms. For example, organizations can align pay raises and incentives with clear performance objectives, use transparent criteria to increase individual and team motivation, and provide a mix of financial, nonfinancial, and psychological rewards to recognize competent employees. Such an approach can effectively motivate and retain high-performing employees while supporting their organizations' short- and long-term goals. Finally, an organizational compensation training program should be offered to senior leaders who are involved in compensation decisions, HR professionals, line managers, and supervisors. This training program will help them improve their knowledge of the complexities of the organization's pay structure and policies, their ability to confidently and fairly handle compensation discussions, their compliance with laws and ethics in compensation management, and their support for employees in discussing difficult compensation issues to reduce pay-related grievances, disputes, and appeals. This capability is valuable in providing management teams with the knowledge and skills needed to design, implement, and manage pay systems that are fair, transparent, and effective. If organizations strongly consider these recommendations, this can inspire employees to embrace and support the goals of their organization's pay system.

6. CONCLUSION

This study empirically tested the theoretical framework developed from the literature on pay management in private institutions, and the measurement model met the criteria for validity and reliability. The structural equation modeling tests confirmed that pay management predicts job satisfaction and organizational commitment, job satisfaction predicts organizational commitment, and job satisfaction mediates the relationship between pay management and organizational commitment. These outcomes are consistent with and have broadened prior research, mostly published in Western and Asian countries. Present research and practice in the private higher education sector should include job satisfaction as a crucial component of pay management. This study provides further evidence that implementing open communication, active participation, and development-based performance appraisal to allocate pay according to employee contributions will drive favorable employee outcomes (e.g., performance, organizational citizenship behavior, and innovative work behavior). Thus, this positive behavior can enhance the sustainability and competitiveness of private higher education institutions amid global innovation and turbulent economies.

6.1. Limitations

This study presents some methodological and conceptual limitations. Firstly, the cross-sectional research approach reveals respondents' attitudes toward the phenomena under study. Secondly, this study tested the association between latent variables. Thirdly, the participants' characteristics are not included in the model testing. Fourthly, a purposive sample technique may not provide sufficient data to characterize the study population. Lastly, the survey data are limited to private institutions in Peninsular Malaysia. These constraints may limit the generalizability of the study results to other higher education institutions.

6.2. Suggestions for Future Research

This study outlines recommendations to guide future research directions. First, several important personal characteristics of the participants, such as gender, age, education, and length of service, need to be examined to understand the similarities and differences in their perceptions of the study phenomena. Second, a longitudinal method may be employed if researchers wish to follow trends, patterns, and causal relationships over time. Third, public and private higher education institutions should be used to test the study framework's performance across different contexts. Fourth, other dimensions of pay management, such as allocation and distribution rules, should be considered, as they are widely regarded as crucial variables affecting employee outcomes. Fifth, some aspects of job satisfaction, such as internal and external job factors, should be incorporated into future research as they are recognized as important outcomes of pay management in considerable organizational pay research. Finally, specific components of organizational commitment, such as affective, normative, and calculative, should receive greater attention, as they are widely recognized as crucial outcomes of pay management.

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