



Enhancing the engagement of private university lecturers in Thailand: The mediating role of job satisfaction and the moderating role of information literacy

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Abstract

A relationship between intrinsic and extrinsic motivators and employee engagement of Thailand's private university lecturers has been more controversial in the fields of human resources management and education due to problems like the decrease of Thailand's birth rate. Hence, this study concentrated on investigating how to enhance the engagement of private university lecturers in Thailand by using job satisfaction and information literacy. The participants in the study were permanent lecturers working for Thailand's private universities, and they were selected by random sampling technique. A sample of 425 Thai permanent lecturers working in private universities in Thailand completed self-report measures of intrinsic motivators, extrinsic motivators, job satisfaction, information literacy, and employee engagement. A quantitative research methodology targeted to measure the relationships of intrinsic motivators, extrinsic motivators, job satisfaction, information literacy, and employee engagement. Correlation results indicated that the 'intrinsic motivators' variable and the 'extrinsic motivators' variable were associated with job satisfaction, information literacy, and employee engagement. The outcomes of data analysis illustrated that job satisfaction played a significant role of being a fully mediating influencer in the relationship between the 'intrinsic motivators' variable and employee engagement and fully mediated the relationship between the 'extrinsic motivators' variable and employee engagement. Furthermore, information literacy moderated the 'intrinsic motivators' variable-employee engagement relationship and moderated the 'extrinsic motivators' variable-employee engagement relationship.

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Introduction

Employee engagement with work and organization has become more important to performance, productivity, and effectiveness at both employee and organizational levels. Moreover, concepts of organizational behavior in aspects of positive and negative emotions such as job satisfaction, turnover, alienation, and burnout were related to employee engagement (Chandani et al., 2016; Kahn, 1990; Schaufeli et al., 2002). In the higher education institutions in a private sector, most university lecturers are permanent (Office of the Higher Education Commission, 2021). Currently, Thailand's private university lecturers are facing serious situations like Thailand's declining birth rate (Central Intelligence Agency, 2022) and new entry of foreign universities (Praphamontripong, 2010; Wilkins & Juusola, 2018) that could negatively affect their work motivation and engagement. For further explanation, the declining birth rate leads to the problematic numbers of student enrolment at private universities. The decrease of the enrolment especially from new students has been forcing private universities to concentrate on cost-effectiveness by cutting some university budgets related to lecturers' salaries, working resources, and chances of academic and professional growth like scholarships for higher education, funding for seminar participation, and so on. When lecturers have to face these obstacles in their careers, they may become disengaged with their jobs and their organization and become unmotivated at work. Hence, it can be inferred that Thailand's declining population generates negative impacts on work motivation and engagement of private university lecturers. Additionally, prior studies concerning the impact of work motivators to employee engagement ignored importance of information literacy (Anitha, 2014; Chambel et al., 2014) even though some previous research confirmed that information literacy generated valuable benefits at a workplace (Saadia & Naveed, 2022) and could have a link to engagement. In other words, information literacy has not been widely examined in a private university context and has not been popularly integrated with work motivation for discovery.

This study mainly targeted to explore the role of intrinsic and extrinsic motivators as private university lecturers' needs that could be a link with job satisfaction which could clarify employee engagement and to investigate an underlying condition that might explain the influence of intrinsic and extrinsic motivators on their employee engagement during the very high competition among private universities in Thailand.

Literature Review

Theories

Main theories related to employee engagement and motivation in this research are the social exchange theory (SET) and Herzberg's two-typed factor theory. In the social exchange theory (SET), Saks (2006) explained that the different level of engagement is a way for individuals in responding to their organization in economic resources and social feelings they got from it. In particular, employees were more likely to give their organization engagement as the exchange for getting back property resources and other benefits from the organization (Davardoost & Javadi, 2019). Herzberg's two-factor theory was found as significantly popular and more explicitly related to job satisfaction of an individual at different levels when comparing with other motivation theories. Frederick Herzberg defined two factors concerning job satisfaction and job dissatisfaction, including motivator factors or intrinsic motivators (e.g., achievement, recognition, work itself, responsibility, promotion, and growth, etc.) and hygiene factors or extrinsic motivators (e.g., company policy, salary, status, and security, etc.) (Peramatzis & Galanakis, 2022; Suthatorn & Charoensukmongkol, 2023). Although hygiene factors or extrinsic motivators are used to prevent job dissatisfaction not to build job satisfaction, some evidence shows they affected job satisfaction (Tran, 2018). Hence, the theoretical framework developed by the researchers is presented (Figure 1).

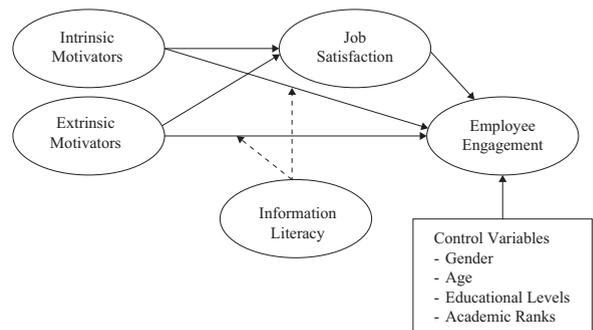


Figure 1 Theoretical framework developed

Source: Locke (1976), Kahn (1990), Ghazizadeh et al. (2017), Marion (2019), Park, & Johnson, (2019), Tran (2018), Davardoost, & Javadi, (2019), Tan, & Waheed (2011), Vorina et al. (2017), Chan et al. (2021), Corral (2007), Shmailan (2015), and Tepayakul, & Rinthaisong, (2018) (adapted by the authors (2022))

All Variables: Intrinsic and Extrinsic Motivators, Job Satisfaction, Information Literacy, and Employee Engagement

Intrinsic motivators or driving factors, like job achievement, recognition for job achievement, work itself, job responsibility, and career advancement/growth, are used to build job satisfaction of employees (Juneja, 2022; Peramatzis & Galanakis, 2022; Suthatorn & Charoensukmongkol, 2023; Tran, 2018). In particular, the studies by Federman (2009) and Thomas (2009) found that recognition, non-financial compensation and intrinsic appreciation, could motivate employees. Moreover, intrinsic motivators can engage organizational employees (Tran, 2018) because employees become engaged if they perceive dignity, honor, and respect as some signs of career acceptance from their organization (Kahn, 1990; McClelland, 1988). Extrinsic motivators or hindering factors, like salary, status, security, and others could build job satisfaction and engagement of employees (Tran, 2018). Benefits of extrinsic motivators are to lower an organization's employee turnover rate, to increase organizational and work commitment of employees that help retaining employees (Federman, 2009; Thomas, 2009). When considering intrinsic and extrinsic motivators of Thailand's university lecturers, private university lecturers had lower levels of career progress, autonomy, and job security than public university lecturers although private university lecturers had better salary than public university lecturers (Kumkrua, 2011), which implied that private university lecturers might feel satisfied with their salary. Conversely, they might feel dissatisfied with their career progress, autonomy, and job security. Employee engagement is instrumental to control organizational members so that they can be effectively used to handle their work roles (Alfes et al., 2013; Zhong et al., 2016). Therefore, engaged people tend to employ and express themselves physically, cognitively, and emotionally during role performances (Kahn, 1990). Engagement also refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior (Schaufeli et al., 2002). Therefore, characteristics of employee engagement as work-related engagement consist of vigor, dedication, and absorption (Schaufeli et al., 2002). However, employee engagement can be found in a phenomenon that people have positive feelings and opinions about their organization and its value (Robinson et al., 2004). Hence, characteristics of employee engagement as organizational engagement are (1) to highly desire to retain a status as an organizational

member, (2) to believe in and accept values and goals of an organization, and (3) to have readiness to make mental or physical effort for representing an organization (Mowday et al., 1982). Besides, previous studies revealed that control variables like age, gender, educational levels, and academic positions/ranks could affect engagement of an employee. For instance, Physical bodies and strong feelings of female employees made them less vigorous when comparing to males (Myhren et al., 2013). Employees at a higher age were more likely to become more dedicated when comparing with younger ones (Haley et al., 2013). Education affected how energetic employees were and how well they performed their duties (Halbesleben & Bowler, 2007). Oppositely, Vuong and Suntrayuth (2020) stated that there were no educational level-employee engagement relationship or working experience-employee engagement relationship. Job satisfaction refers to an individual employee's positive feelings and emotions about his or her job and attitude toward the variety of a work-related experience (Locke, 1976; Spector, 1985). Benefits of job satisfaction at the organizational level are to achieve higher levels of organizational productivity and profitability, a lower rate of absenteeism, a lower rate of turnover, a better level of service quality, a higher level of customer satisfaction, and a higher level of financial performance. At the employee level, job satisfaction provides workers with joyful work, employee participation, positive feeling as part of the company's success, career achievement, and greater performance and higher productivity of employees (Holland et al., 2011). Obviously, job satisfaction is a significant cause of job engagement and organizational commitment. And, their relationship is positive (Abraham, 2012; Tepayakul & Rinthaisong, 2018). Information literacy, essential expertise in the workplace (Thompson, 2003), was defined as "learning, experienced as task-focused information need and its fulfillment through effective information engagement" (Forster, 2017). The five abilities of information literacy are (1) being able to get to required information with effectiveness and efficiency, (2) being able to criticize and judge the quality, importance, and value of information and its sources, (3) being able to use information to succeed in a specific purpose, (4) being able to ascertain the nature and scope of required information, and (5) being able to comprehend various topics-economy, laws, and society surrounding the use of information (Ghazizadeh et al., 2017). Benefits of information literacy are to provide an employer with employees who have soft skills of problem-solving and critical thought, and competencies to seek, access, and use information

in an effective direction for tackling work-related subjects and performing efficient and effective communication referring to those subjects (Malafi et al., 2017).

Mediation Role of Job Satisfaction in the Intrinsic and Extrinsic Motivators-Employee Engagement Relationship

Prior research shows the relationship of intrinsic and extrinsic motivators, job satisfaction, and employee engagement. For instance, Wong and Hang (2009) and Wuttaphan (2016) revealed that intrinsic motivators could affect job satisfaction of university employees. Also, achievement was found to cause more self-confidence and more happiness of employees at work (Tan & Waheed, 2011; Worlu, 2012). Recognition, perceiving trust and acceptance from their boss, can satisfy employees by making them feel satisfied and valued to their organization (Bušatlić & Music, 2018). The feeling of being trusted and accepted can lead to work-related engagement of employees. (Deci & Ryan, 1985). Challenging and exciting work can increase job satisfaction (Worlu, 2012) because it is human nature to feel bored with routine jobs or repetitive work (Janssen & Van, 2004). Freedom in making a work-related decision is also favorable to employees (Deci & Ryan, 1985; Smerek & Peterson, 2006). Opportunities for development of their work-related expertise by joining training courses to learn new things enable employees feel satisfied with careers (Worlu, 2012). Furthermore, clear policy and systematic administration of an organization tend to support employees to work with happiness (Jiangguo & Frimpong, 2011; Mohammed, 2011; Tan & Waheed, 2011). Salary, security, job stability, also could significantly affect job satisfaction of employees (Robianto et al., 2019). Additionally, some evidence shows a positive impact of job satisfaction on employee engagement (Ali & Farooqi, 2014; Park & Johnson, 2019). Hence, the following predictions are proposed.

Hypothesis 1: Job satisfaction mediates the relationship between intrinsic motivators and engagement of private university lecturers.

Hypothesis 2: Job satisfaction mediates the relationship between extrinsic motivators and engagement of private university lecturers.

Moderation Role of Information Literacy in the Intrinsic and Extrinsic Motivators-Employee Engagement Relationship

Information literacy, a strategy in an institution for information, learning, and teaching (Corrall, 2007),

can bring innovation to an organization because Information literacy involves the ability to identify, locate, evaluate, and effectively use information. In a university context, information literacy empowers lecturers to attain efficient operations in various forms concerning the efficient implementation of internal and external resources, the increase of teaching and research productivity, and problem-solving tasks. The employees who have a higher level of information literacy can perform their creative and innovative work and improve their learning process better than others (Chang & Hsu, 2015). Also, the nature of lecturers' work needs creativity and innovation (Park & Johnson, 2019; Wuttaphan, 2016) which depend on advantages of information literacy. When they can perform their academic work effectively and efficiently with the appropriate level of information literacy, academic reputation, dignity, honor, and respect are likely to come to their career path. This skill gives them greater visibility and opportunities to gain intrinsic and extrinsic motivators such as career progress-higher academic ranks, higher compensations, better job security, more acceptable status, a higher level of work-related happiness, and others (Park & Johnson, 2019; Tepayakul, & Rinthaisong, 2018). Additionally, private university lecturers who have a higher level of information literacy tend to enjoy their career and be happy at the workplace. Then, they become more engaged with work and organization rather than others with a lower level of information literacy based on Herzberg's two-factor theory, the role theory, the social exchange theory, and the concepts of information literacy. So, information literacy could be an underlying condition to explain the stronger effect of intrinsic and extrinsic motivators on employee engagement of private university lecturers. In other words, it implies that information literacy may make the effect of intrinsic and extrinsic motivators on employee engagement stronger. Therefore, the following hypotheses are predicted.

Hypothesis 3: Information literacy moderates the relationship between intrinsic motivators and engagement of private university lecturers.

Hypothesis 4: Information literacy moderates the relationship between extrinsic motivators and engagement of private university lecturers.

Methodology

Sample

425 participants in this study were permanent university lecturers from 10 private universities in Bangkok, Thailand.

Measures

The ‘intrinsic motivators’ and ‘extrinsic motivators’ variables were assessed through Herzberg’s two-factor theory (Bušatlić & Music, 2018; Peramatzis & Galanakis, 2022; Suthatorn & Charoensukmongkol, 2023). The ‘intrinsic motivators’ variable consists of five dimensions, including achievement, recognition, work itself, responsibility, and possibility of growth/advancement that were brought into the designing process of survey questions. To measure the ‘intrinsic motivators’ variable, a set of the questions includes 15 items such as, “At your work, you are proud of yourself because you can properly solve problems which come from working” and “You frequently receive trust from your boss in joining important work”. The ‘extrinsic motivators’ variable consists of four dimensions, including organizational policy and administration, salary, status, and security that were brought into designing a set of the survey questions. To measure the ‘extrinsic motivators’ variable, a set of the questions includes 12 items such as, “Your organization has the assessment of work performance that is compatible with the objectives of working” and “Salary adjustment at an organization is suitable for current costs of living”. The ‘job satisfaction’ variable was assessed through Herzberg’s two-factor theory and the literature review (Locked, 1976; Park & Johnson, 2019; Peramatzis & Galanakis, 2022; Permana et al., 2021; Riyanto & Endri, 2021; Robianto et al., 2019; Spector, 1997; Suthatorn & Charoensukmongkol, 2023). A set of the survey questions consists of 9 items such as “You receive a chance to set your own ways in completing work” and “Your career is stable”. The ‘information literacy’ variable was assessed through the American Library Association (1989) and Ghazizadeh et al. (2017). A set of the survey questions consists of 5 items such as “You can efficiently (time) and effectively (sources) access information (like university policies, university rules and regulations, university announcement, press report, academic journals, textbooks, and other reputable information sources) that is beneficial to your work-teaching, academic work, and other university tasks” and “You accurately and creatively use information (like university policies, university rules and regulations, university announcement, press report, academic journals, textbooks, and other reputable information sources) for coping with the issue or problem in your work.”. The ‘employee engagement’ variable was assessed through the studies by Mowday et al. (1982), Schaufeli et al. (2002), and Schaufeli and Bakker (2003). A set of the questions includes 18 items such as,

“At your work, you always endure or persist in doing your work even though something does not go well” and “You would recommend your university to other people as a good university or employer”. For all the variables, participants were asked to express their agreement based on a seven-point Likert rating scale. Codes applied to the survey questions of intrinsic and extrinsic motivators and employee engagement are 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neutral, 5 = slightly agree, 6 = agree, 7 = strongly agree. Codes applied to the survey questions of job satisfaction and information literacy are 1 = lowest, 2 = low, 3 = slightly low, 4 = moderate, 5 = slightly high, 6 = high, 7 = highest. Four control variables-gender, age, educational levels, and academic ranks which probably generated influences on employee engagement were consolidated into the analysis process. Gender was coded in a form of a dummy variable (Male was coded 1; and Female was coded 2), whereas the number of years was used to measure age. Educational levels were coded with an ordinal scale (1 = bachelor’s degree; 2 = master degree, and 3 = doctoral degree). Academic positions/ranks were coded in a form of an ordinal scale (1 = lecturer; 2 = assistant professor, 3 = associate professor, and 4 = professor).

Data Collection

The data collection was conducted through self-administered questionnaire surveys. A random sampling technique was used for sample selection. Besides, the researchers made appointments with Thailand’s private universities where the researchers randomly selected the samples asking them for good collaboration and permission to walk in for gathering the data. In arriving for appointments, the survey questionnaires were distributed along with a cover letter. The participants filled out the survey questionnaires in the university environment. Most private university lecturers took around 10–15 minutes for the completion of the survey. The researchers finished the questionnaire surveys with confidentiality of their responses. After finishing data collection, the researchers organized all the questionnaires from the actual samples and brought them to the process of data analysis. Although all 600 survey questionnaires were given to informants, 34 questionnaires were not properly answered. Therefore, 425 completed questionnaires (approximately 70 percent) were brought into the process of data analysis. [Table 1](#) indicates the characteristics of informants.

Table 1 Descriptive characteristics of the sample

(n = 425)

| Variables | Descriptive Statistics |
|---|--|
| Gender | Male: 178 (41.90%); Female: 247 (58.10%) |
| Age (years) | Min: 22; Max: 78; Mean: around 45 |
| Salary (Thai baht) | Not over 15,000: 9 (2.10%); 15,001–35,000: 288 (67.80%); 35,001–55,000: 104 (24.50%); 55,001–75,000: 21 (4.90%); Over 75,000: 3 (.70%) |
| Educational levels | Bachelor's degree: 14 (3.30%); Master degree: 275 (64.70%); Doctoral degree: 136 (32.00%) |
| Working experiences at the present private university | Min: 1 year; Max: 42 years; Mean: nearly 10 years |
| Job positions | Permanent lecturer: 329 (77.40%); Head of the program: 56 (13.20%); Deputy dean: 18 (4.20%); Dean: 11 (2.60%); Other executive positions: 11 (2.60%) |
| Academic ranks | Lecturer: 354 (83.30%); Assistant professor: 64 (15.10%); Associate professor: 7 (1.60%); Professor = 0 (0%) |

Data Analysis

The process in the data analysis implemented structural equation modeling (SEM) for examining the meditation effect of job satisfaction and the moderation effect of information literacy in the intrinsic and extrinsic motivators-employee engagement relationship. After the measurement models appeared to be satisfying, the models of structures were tested with the use of the maximum likelihood estimation with the AMOS 23.0. SPSS program. Five-item packs for the 'intrinsic motivators' variable, four-item packs for the 'extrinsic motivators' variable, 9 items for the 'job satisfaction' variable, 5 items for the 'information literacy' variable, and six-item packs for the 'employee engagement' variable were shaped for controlling measurement errors larger than the usual level owing to manifold items for the latent factor. Different goodness-of-fit indices for investigating the sufficiency of model fit to the gathered data include comparative fit index (CFI) above .95 if most desirable, the relative chi-square value below 2.00, the values of GFI, AGFI, TLI, and NFI larger than .95, and the values of RMSEA and RMR less than .05 (Hu & Bentler, 1999; Schumacker & Lomax, 2016).

Results

Measurement Model

Assessment of the measurement model had been run before hypotheses were tested. First of all, the researchers used the AMOS 23.0. SPSS program to conduct the confirmatory factor analysis (CFA) of all variables that were consistent with the empirical data (Table 2). Also, Hair et al. (2009) posited that the factor loadings greater than .50 are necessity. Table 2 indicated the results of

assessing convergence validity by using factor loading that all the factor loadings were over .50. Furthermore, the researchers tested the Cronbach's alpha coefficient value and the composite reliability coefficient (CR) value with the collected data for testing the internal consistency of the subscales. These two indicators must be larger than .70 for supporting a satisfactory level as mentioned in Nunnally (1978). All reflection of constructs demonstrated that their coefficients were compatible with the requirement (Table 2). Besides, it is advisable that the average variance extracted (AVE) is above .50 when testing the convergent validity. However, the AVE value of .49 (less than .50) found in the 'Job Satisfaction' construct is acceptable in the condition that the composite reliability (CR) is higher than .60 (Fornell & David, 1981). Hence, the convergent validity of the 'Job Satisfaction' construct is acceptable. The convergent validity of other constructs was above .50. Additionally, the researchers tested discriminant validity by using the latent correlation matrix of Fornell and David (1981). Table 2 shows discriminant validity assessed by comparing the average variance extracted (AVE) with maximum shared variance (MSV) and average shared variance (ASV). The AVE value must be higher than the MSV and ASV values for confirmation of sufficiency of discriminant validity. Although the researchers found that some constructs had the AVE value less than the MSV and/or ASV values, the model fit indices of each construct show the goodness of the measurement model as seen (Table 2). As a consequence, the discriminant validity of constructs is acceptable (Chin et al., 1997). In addition, full variance inflation factor (VIF) statistics were instrumental to examine the degree of multicollinearity. The value of full VIF below 3.30 was the suggestion from Petter et al. (2007). The maximum and minimum of the full VIF values in this study were 3.059 and 2.082 respectively. As a result, multicollinearity is not a major issue. Furthermore, all latent variables achieved requirements of goodness of model fit indices.

Table 2 Construct reliability and validity

| Measurement Items | Factor Loading | Cronbach's Alpha Coefficient | Composite Reliability Coefficient | Average Variance Extracted | MSV | ASV |
|--|----------------|------------------------------|-----------------------------------|----------------------------|------|------|
| Intrinsic Motivators | | .865 | .858 | .548 | .560 | .505 |
| INM1 | .675 | | | | | |
| INM2 | .792 | | | | | |
| INM3 | .724 | | | | | |
| INM4 | .751 | | | | | |
| INM5 | .755 | | | | | |
| $\chi^2 = 5.646, df = 3, p = .130, CMIN/DF \text{ or Relative Chi-Square} = 1.882, RMR = .012$ | | | | | | |
| Extrinsic Motivators | | .835 | .810 | .520 | .570 | .488 |
| EXM1 | .813 | | | | | |
| EXM2 | .707 | | | | | |
| EXM3 | .576 | | | | | |
| EXM4 | .767 | | | | | |
| $\chi^2 = 1.729, df = 1, p = .140, CMIN/DF \text{ or Relative Chi-Square} = 1.729, RMR = .017$ | | | | | | |
| Job satisfaction | | .892 | .894 | .490 | .680 | .564 |
| JS1 | .734 | | | | | |
| JS2 | .612 | | | | | |
| JS3 | .612 | | | | | |
| JS4 | .709 | | | | | |
| JS5 | .854 | | | | | |
| JS6 | .825 | | | | | |
| JS7 | .775 | | | | | |
| JS8 | .575 | | | | | |
| JS9 | .524 | | | | | |
| $\chi^2 = 9.596, df = 10, p = .477, CMIN/DF \text{ or Relative Chi-Square} = .960, RMR = .020$ | | | | | | |
| Information Literacy | | .932 | .936 | .747 | .460 | .421 |
| IL1 | .779 | | | | | |
| IL2 | .904 | | | | | |
| IL3 | .929 | | | | | |
| IL4 | .874 | | | | | |
| IL5 | .826 | | | | | |
| $\chi^2 = 1.920, df = 1, p = .136, CMIN/DF \text{ or Relative Chi-Square} = 1.920, RMR = .009$ | | | | | | |
| Employee Engagement | | .943 | .894 | .588 | .680 | .505 |
| EE1 | .759 | | | | | |
| EE2 | .784 | | | | | |
| EE3 | .602 | | | | | |
| EE4 | .789 | | | | | |
| EE5 | .837 | | | | | |
| EE6 | .807 | | | | | |
| $\chi^2 = 3.615, df = 4, p = .461, CMIN/DF \text{ or Relative Chi-Square} = .904, RMR = .007$ | | | | | | |

Note: INM1 = achievement; INM2 = recognition; INM3 = work itself; responsibility = INM4; INM5 = possibility of growth/advancement; EXM1 = university policy and administration; EXM2 = salary; EXM3 = status, EXM4 = security; JS1 = job satisfaction level in achievement; JS2 = job satisfaction level in recognition; JS3 = job satisfaction level in work itself; JS4 = job satisfaction level in responsibility; JS5 = job satisfaction level in possibility of grown; JS6 = job satisfaction level in university policy and administration; JS7 = job satisfaction level in salary; JS8 = job satisfaction level in status; JS9 = job satisfaction level in security; IL1 = being able to get to required information with effectiveness and efficiency; IL2 = being able to criticize and judge the quality, importance, and value of information and its sources; IL3 = being able to use information to succeed a specific purpose; IL4 = being able to ascertain the nature and scope of required information; IL5 = being able to comprehend various topics-economy, laws, and society surrounding the use of information; EE1 = vigor, EE2 = dedication; EE3 = absorption; EE4 = sturdy desire to retain a status as an organizational member; EE5 = powerful belief in and hardy acceptance of an organization's values and goals; EE6 = being ready to make mental or physical effort for representing an organization.

Hypotheses Testing

Regarding the hypotheses 1 and 2 concerning the meditation effects of job satisfaction in the relationships between intrinsic and extrinsic motivators and employee engagement, the results of the AMOS 23.0 SPSS program confirmed a satisfactory goodness of model fit indices (Hu & Bentler, 1999; Schumacker & Lomax, 2016) in hypothesis 1 which were $\chi^2 = 61.963$, $df = 57$, $p = .304$, Relative Chi-Square = 1.087, RMR = .031, GFI = .986, AGFI = .950, NFI = .991, TLI = .998, CFI = .999, and RMSEA = .014. Also, a satisfactory goodness of model fit indices in hypothesis 2 was confirmed with $\chi^2 = 66.672$, $df = 51$, Relative Chi-Square = 1.307, $p = .069$, RMR = .038, GFI = .984, AGFI = .949, NFI = .990, TLI = .992, CFI = .998, and RMSEA = .027. The results of AMOS-SEM regression in hypothesis 1 demonstrated that the direct path coefficient from job satisfaction to employee engagement was significantly positive at .954. Moreover, job satisfaction was significantly, directly and positively influenced by intrinsic motivators at .835. Additionally, employee engagement was significantly, indirectly and positively influenced by intrinsic motivators at .797. In brief, the fully mediating influence of job satisfaction was associated with the relationship between intrinsic motivators and employee engagement of private university lecturers. Thus, hypothesis 1 was supported. Additionally, the results of AMOS-SEM regression in hypothesis 2 illustrated that the direct path coefficient from job satisfaction to employee engagement was significantly positive at .935. Moreover, job satisfaction was significantly, directly and positively influenced by extrinsic motivators at .913. Additionally, employee engagement was significantly, indirectly and positively influenced by extrinsic motivators at .854. In brief, the full mediation effect of job satisfaction in the relationship

between extrinsic motivators and employee engagement of private university lecturers was found in this study. Hence, hypothesis 2 was supported.

The hypotheses 3 and 4 deal with the moderation effects of information literacy in the relationships between intrinsic and extrinsic motivators and employee engagement. Figure 2 and 3 presented the outcomes of the AMOS-SEM models in hypothesis 3 and 4 respectively. The results of the AMOS 23.0 SPSS program confirmed a satisfactory goodness of model fit indices (Hu & Bentler, 1999; Schumacker & Lomax, 2016) in hypothesis 3 which were $\chi^2 = 11.927$, $df = 6$, Relative Chi-Square = 1.988, $p = .064$, RMR = .020, GFI = .994, AGFI = .954, CFI = .999, NFI = .997, TLI = .992, and RMSEA = .048. Furthermore, a satisfactory goodness of model fit indices in hypothesis 4 was confirmed with $\chi^2 = .003$, $df = 1$, Relative Chi-Square = .003, $p = .958$, RMR = .001, GFI = 1.000, AGFI = 1.000, CFI = 1.000, NFI = 1.000, TLI = 1.008, and RMSEA = .000. The study in hypothesis 3 demonstrated that employee engagement was associated with the interaction of intrinsic motivators and information literacy (moderating effect 1 = INMOT*IL) with a path coefficient = -.088 and p -value < .01. Furthermore, there was a positive relationship between intrinsic motivators and employee engagement. Hence, information literacy moderated the relationship between intrinsic motivators and employee engagement. In other words, private university lecturers who received the low level of intrinsic motivators had the higher level of employee engagement if they had the high level of information literacy. Additionally, the difference of employee engagement dropped gradually when private university lecturers received the higher level of intrinsic motivators which reduced the impact of information literacy on their employee engagement. Therefore, hypothesis 3 was supported.

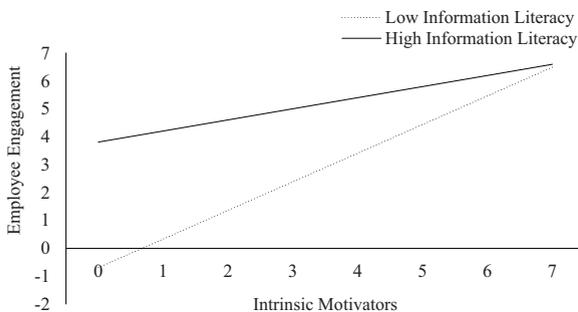


Figure 2 Moderation effect of information literacy in the intrinsic motivators-employee engagement relationship

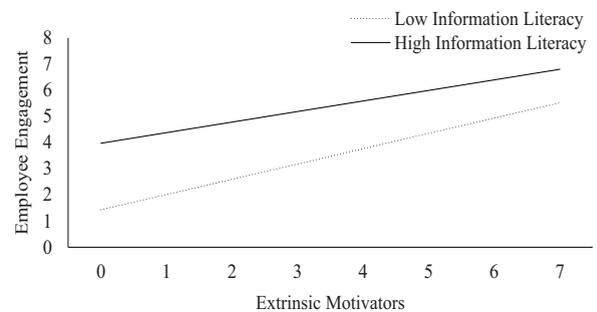


Figure 3 Moderation effect of information literacy in the extrinsic motivators-employee engagement relationship

Besides, the study in hypothesis 4 illustrated that employee engagement was associated with the interaction of extrinsic motivators and information literacy (moderating effect $2 = \text{EXMOT} * \text{IL}$) with a path coefficient = $-.215$ and $p\text{-value} < .05$. Furthermore, there was the positive way in which extrinsic motivators and employee engagement were connected. Hence, information literacy moderated the relationship between extrinsic motivators and employee engagement. In other words, private university lecturers who received the low level of extrinsic motivators had the higher level of employee engagement if they had the high level of information literacy. Furthermore, the difference of employee engagement dropped gradually when private university lecturers received the higher level of extrinsic motivators which reduced the impact of information literacy on their employee engagement. So, hypothesis 4 was supported.

Discussion

The objective of this research was to explore the mediation effect of job satisfaction and the moderation effect of information literacy in the two relationships—the intrinsic motivators-employee engagement relationship and the extrinsic motivators-employee engagement relationship of Thai private university lecturers in Thailand. First, regarding the hypothesis that predicted the mediating influence of job satisfaction in the connection of intrinsic motivators and employee engagement, the data analysis revealed that job satisfaction was a full mediator in the way in which intrinsic motivators and employee engagement were linked. Additionally, the positive and significant association of job satisfaction and employee engagement were consistent with prior research that found evidence of a positive relationship between job satisfaction and employee engagement (Kim-Soon & Manikayasagam, 2015; Vorina et al., 2017). Additionally, employee engagement was found as a consequence of job satisfaction (Abraham, 2012; Shmailan, 2015). Besides, the findings point out that private university lecturers who received intrinsic motivators from their private universities tended to give a description of a greater degree of job satisfaction. In particular, the discovered information is in agreement with previous research showing a positive impact of intrinsic motivators on the job satisfaction (Tan & Waheed, 2011; Wong & Heng, 2009; Worlu, 2012; Wuttaphan, 2016). Second, regarding the hypothesis that predicted the mediating influence of job satisfaction in the relationship between extrinsic

motivators and employee engagement, the data analysis found the fully mediating influence of job satisfaction in the way in which extrinsic motivators and employee engagement were associated. And, higher extrinsic job satisfaction that private university lecturers had would lead to their higher level of employee engagement (Tepayakul & Rinthaisong, 2018). Moreover, the positive and significant links between extrinsic motivators and job satisfaction were compatible with prior research presenting a positive relationship between extrinsic motivators and job satisfaction (Jianguo & Frimpong, 2011; Mohammed, 2011; Tan & Waheed, 2011). Furthermore, the findings show that private university lecturers who received extrinsic motivators were likely to give information pointing out a greater degree of job satisfaction. For instance, this finding is consistent with argument that found evidence of the positive influences of organizational policy and administration, salary, status, and security on the job satisfaction (Robianto et al., 2019; Tan & Waheed, 2011; Worlu, 2012). Lastly, regarding the hypotheses that predicted the moderating role of information literacy in the relationships between intrinsic and extrinsic motivators and employee engagement, the data analysis found information literacy mediated the relationships between intrinsic and extrinsic motivators and employee engagement. The finding revealed that even though private universities provided their lecturers with a lower level of intrinsic and extrinsic motivators, they were likely to have more engagement at work and in organization if their abilities of information literacy were higher. However, when private university lecturers received a higher level of intrinsic and extrinsic motivators which lowered the influence of information literacy on their employee engagement, the difference of employee engagement decreased gradually. The findings were consistent with previous studies that higher intrinsic and extrinsic motivation caused higher level of employee engagement (Chan et al., 2021; Federman, 2009; Kahn, 1990; Saks, 2006; Tepayakul & Rinthaisong, 2018; Thomas, 2009; Tran, 2018). However, this time, the research contribution emphasizes a factor—information literacy that explains why some private university lecturers are more engaged than others. Beyond the discoveries confirming advantages of information literacy in prior research (Forster, 2017; Malafi et al., 2017; Naveed & Anwar, 2019; Saadia & Naveed, 2022), this study applied the idea of information literacy to provide evidence of the role of information literacy as a qualification of private university lecturers linked to the intrinsic motivators-employee engagement relationship and relates it to the extrinsic motivators-

employee engagement relationship. Comprehension of the interaction influence of information literacy in research concerning human resources management has been popularly discovered even though an organization could greatly benefit from information literacy of its employees. So, this work offered the trendy track and application for creative discovery in future for expansion of further evidence about the strength that information literacy is able to bring to private university lecturers in aspects above the intrinsic motivators-employee engagement relationship and the extrinsic motivators-employee engagement relationship. Anticipated research probably imitates this study to obtain generalization of the findings by using the different contexts like differences in nations, cultures, careers, and so on. Despite the current study's contributions, it is necessary for limitations of the research to be considered. Firstly, the sample only covered permanent lecturers working for private universities in Bangkok, Thailand using random sampling. The limitation is that all the research variables were merely applied to permanent lecturers working for private universities in the capital city where the data were gathered. Hence, it is advisable to enlarge the scope or area of choosing samples by emphasizing private university lecturers who are working in other provinces or towns in Thailand so that the findings could virtually represent the population. Secondly, the sample refers to Thai lecturers not foreign lecturers. Therefore, foreseeable research is supposed to discover the contribution of intrinsic and extrinsic motivators using a sample from other national cultures to measure its impact from a perspective of cultural diversity. Lastly, all the research models lie in the integration of prior theories for developing the models, and one variable added into the models that was never used before in the relationships. As a result, future research requires updated theory to find new or unseen variables as a moderator or mediator added to create new models.

Conclusion and Recommendation

The study ascertains some suggestions about necessity of developing information literacy abilities and intrinsic and extrinsic motivation for increasing job satisfaction and enhancing employee engagement of private university lecturers during the economic crisis of private universities due to the decreasing number of new students. The results of this study can be applied as two major guidelines for dealing executives of private universities to know how to adjust their programs of

human resource management concerning intrinsic and extrinsic motivation for attaining their cost-effectiveness and acquiring job satisfaction of their lecturers, which lead to the greater engagement of the lecturers. Firstly, if executives of private universities require their lecturers to become more engaged with an organization and work, these lecturers must be provided with the adequate levels of intrinsic and extrinsic motivators that can make them satisfied with their career. The research findings additionally demonstrate that career progress is the most important in intrinsic motivation influencing lecturers' job satisfaction, while clarification of policy and systematic administration of private universities are the most important in extrinsic motivation. Thus, private universities should motivate their lecturers by setting and using academic ranks, scholarships, and clear policy and systematic administration as the first priority (Permana et al., 2021; Tan & Waheed, 2011). Secondly, the findings also show that in a condition that private universities cannot motivate their lecturers with the high levels of intrinsic and extrinsic motivators due to some limits like financial problems, arranging in-house training courses for improving information literacy abilities could be a mutual method to help engage their lecturers. This is because information literacy was found as the factor that strengthened the impact of intrinsic and extrinsic motivators on engagement of the private university lecturers. However, it can be seen that information literacy created the stronger impact of intrinsic motivators on the engagement when comparing to extrinsic motivators.

Conflict of Interest

The authors declare that there is no conflict of interest.

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