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Applying vroom expectancy theory to analyse employee motivation: A study of commercial banks in Vietnam

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ABSTRACT

In researching motivation, the process approach is better and has more potential than the content approach. This research aims to apply Vroom expectancy theory, a process-based approach to motivation to gain a greater understanding of employee motivation within the commercial banking sector in Vietnam. Additionally, this study seeks to validate the applicability of the expectancy theory by surveying 901 employees from 16 commercial banks with different total assets and numbers of employees. The data analysis involved the utilization of Cronbach's alpha, Exploratory Factor Analysis (EFA), confirmatory factor analysis (CFA) and structural equation model (SEM). This study reveals that there is a positive relationship between expectancy (E), intrinsic instrument (I-IN), intrinsic valence (I-V) and employee motivation (EM). Employee motivation has an impact on job performance. Nevertheless, it has been observed that the presence of extrinsic valence (E-V) and extrinsic instruments (E-IN) do not significantly impact employee motivation despite the high employees' level of need for extrinsic valence. This finding deviates considerably from previous studies that applied Vroom's theory. These findings further emphasize the notion that motivation is a dynamic process. Using a process approach in investigating motivation has significant efficacy and employee motivation has a substantial impact on employee performance especially in the context of commercial banks in Vietnam.

Contribution/Originality: This study provides insights on how employees expect effort (working hard), instrumentality (believing that their efforts will result in a reward), valence (the expected value of the reward), motivating force and the relationship between motivation and job performance.

1. INTRODUCTION

One of the most important elements in the success of most service industries and the banking sector is staff performance. However, management's ability to affect employee performance heavily depends on its comprehension of employee motivation. In this study, various Vietnamese commercial banks took into account the connections between performance, workplace motivation and associated elements. Various levels of banking management enhance employee performance or maintain a satisfied workforce through the implementation of appropriate policies.

Employee motivation is the willingness to make an effort to achieve the organization's goal (Federick, Bernard, & Babara, 2008) and the individual effort people use to do particular activities (Mitchell, 1974). Motivation is "the

processes that account for an individual's intensity, direction and persistence of effort towards attaining a goal" (Robbins, 2013). Employee performance is significantly affected by motivation (Lawler, 1973).

According to Lunenburg (2011) the motivation of employees can be improved by adjusting their expectations of efforts leading to performance leading to rewards and the value they place on these rewards.

Vroom (1964) defined four primary components that determine the process in which individuals are motivated to work. "Valence" refers to the desired or expected return that an individual seeks in exchange for the effort they undertake. The reward can manifest in two forms: extrinsic which includes a chance to get along with co-workers, a good salary, additional financial bonuses, a pay raise, stable and secure employment and favourable working conditions or intrinsic which is the responsibility, achievement, the opportunity to use one's judgment, recognition, praise, interesting work tasks, opportunities for promotion and development opportunities. "Instrumentality" matches the activity to its desired goal in the belief that a particular action will result in the goal's achievement. The "expectancy" in commercial bank is the anticipated probability that an effort will result in a successful outcome. The concept of the "motivation force" drives individuals to make choices that maximise the chances of achieving their desired goals.

The expectancy theory of motivation of victor focuses on outcomes, unlike other content theories which concentrate on needs. The utilization of expectancy theory was chosen as the most suitable framework for our research. In addition, there is a lack of research that categorizes the incentives obtained through the implementation of Vroom's concept. Classifying instruments and valences by applying the Heizberg two factors theory to study employee motivation in a Vietnamese commercial banks can fill this research gap.

Therefore, this study provides information on how employees expect effort (working hard), instrumentality (believing that their efforts will result in a reward), valence (the expected value of the reward), motivating force and the relationship between motivation and job performance. The goal of this study is to use expectancy theory to recognize employee motivation and validate expectancy theory. By applying expectancy theory to the bank's employee motivation, academic and business should be able to gain a better understanding of how employee perceptions of motivation and individual decision-making influence behaviour at work resulting in greater job performance.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Literature Review

Job performance is characterized by Vroom (1964) as a function of ability and motivation in the research. People's behavior is determined by what inspires them. Their motivation and ability level both influences how well they perform.

$$\text{Job performance} = f(\text{motivation and ability}).$$

Vroom (1964) contends that one's perspective of the possible results of their activity affects their motivation. According to him, a person's expectations for the outcome and the value they set on it drive their motivation which is what motivates them to take on certain activities. Therefore, an employee is more inclined to work hard and perform well if they think their efforts will result in a good performance and a worthwhile reward.

According to this theory, anticipation, instrumentality and valence are the three factors that determine an individual's desire to attain goals.

$$\text{Motivation Force} = \text{Expectancy} \times \text{Instrument} \times \text{Valence}.$$

Expectancy is defined as the belief that superior results can be achieved by greater effort. Self-efficacy, goal difficulty and perceived control are among the elements influencing how an individual's anticipation is regarded. Expectancy is a measure of the likelihood of success and can range from 0 to 1. When an employee believes that their effort will not result in achieving the desired outcome, their expectancy is 0. On the other hand, the

expectancy value of an employee is 1 if they are fully confident in completing the work. Typically, employees place their expectancy estimates somewhere between these two extremes (Lunenburg, 2011).

The result of the efforts' outcome is instrumentality. It also involves the possibility of an outcome or performance. Understanding the relationship between performance and results, having faith in and respect for people who make decisions and observing transparency in the decision-making process are all essential factors that impact instrumentality. Instrumentality can range from 0 to 1. If an employee feels that high performance will continuously lead to opportunities for promotion, the value of their instrumentality is 1. However, if the employee does not perceive a relationship between good performance and promotion opportunities, their instrumentality is 0.

Valence is a measure of an individual's satisfaction with the outcome and the value they place on rewards based on their needs, goals, values and preferences. Every person assigns different values to different outcomes. Valence can be either positive or negative unlike expectancy and instrumentality. If an employee highly values a reward, valence is positive whereas valence is negative if they are not interested in it. Valence is zero if an employee has no interest in receiving a reward. The range is from -1 to +1 in total. Valence provides a connection to the need-based motivation theories because rewards have value since they are related to an individual's needs.

Figure 1 exhibits the Vroom expectancy model.

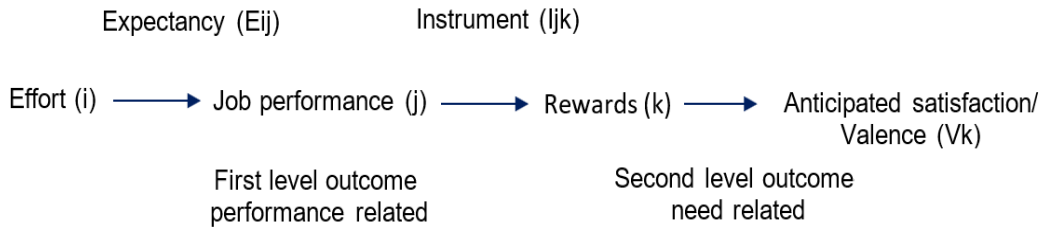

Figure 1. Expectancy motivation based on Vroom theory.

Note: Motivation is identified by the expectation that effort (i) Will lead to job performance (j), Multiplying with the belief that job performance (j) Will lead to reward(k) and the attraction of rewards (Vk).

Porter and Lawler (1968) created a model in accordance with Vroom's thesis; his expectation theory serves as an example for other academics based on Vroom's expectation theory. They extended Vroom's approach by proposing two relevant elements influencing task performance efforts. Individual skills and traits (knowledge, skill and training) and role perception are examples of these determinants. Furthermore, people acquire job satisfaction if the rewards are equal.

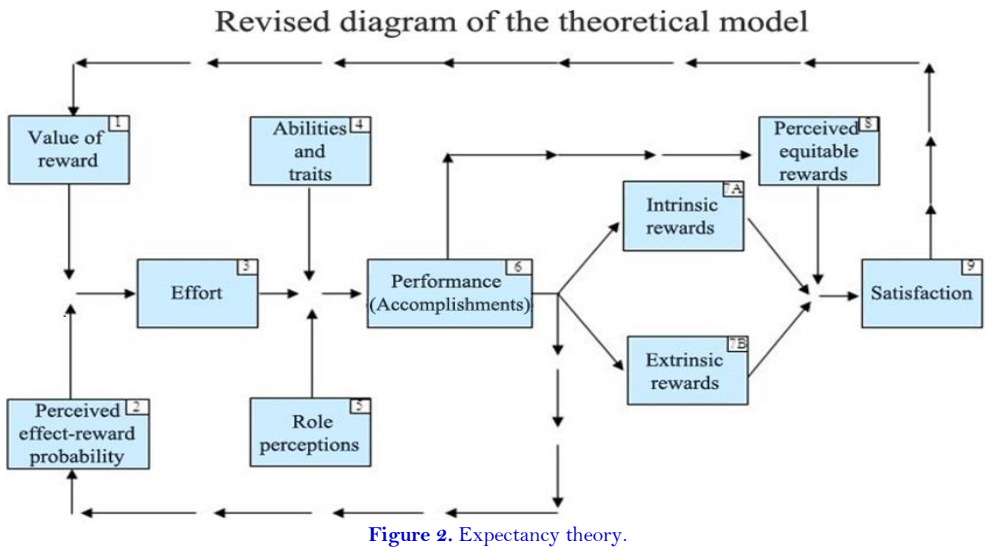

Figure 2. Expectancy theory.

Source: Porter and Lawler (1968).

Thus, three factors influence an employee's job performance: Individual qualities: the ability of the individual to do the task, effort: how willing the individual is to do the job and organizational support and delegation to complete the assignment. The desired results cannot be attained if one of these three variables is not achieved. Individuals who are motivated will put effort into a job assignment and the perception of rewards gained from job performance is a source of job satisfaction that assists employees in remaining motivated at work. There are two types of rewards: intrinsic and extrinsic. As a result, all of the components in this model must be considered to encourage employees at work. Figure 2 presents the development of Vroom expectancy by Porter and Lawler (1968).

Campbell and Pritchard (1976) and Hackman and Lawler (1971) also identified intrinsic and extrinsic rewards as two distinct types of outcomes that result from an individual's work effort. Intrinsic outcomes are personal rewards such as self-fulfillment while extrinsic outcomes are rewards distributed by external agents such as organizations and managers.

Arvey (1972) argued that adding the ability variable to expectancy theory can improve performance prediction more effectively than multiplying the variables. However, this study specifically focuses on forecasting performance by using the motivational component of expectancy theory without assessing ability due to inconsistencies in this area. This approach is consistent with previous studies by Graen (1969), Hackman and Porter (1968) and Lawler (1968) but the effect of ability on job performance should still be considered.

Fudge and Schlacter (1999) concluded that they used expectancy theory in their research because it had already been proven and was helpful in examining organizational behavior and culture in their study "motivating employees to act ethically: An expectancy theory approach". Furthermore, this theory is sufficient to propose a strategic solution to support expected employee behavior by the organization. The application of expectancy theory might be simple or difficult depending on the factors found by expectation, instrument and valence.

According to Chiang (2006) the Vroom model has been expanded upon in three ways by subsequent researchers. Firstly, the model distinguishes between first-level and second-level outcomes with the former referring to the level of performance resulting from a given amount of effort and the latter being the reward attained from the level of performance or effort expended. Secondly, intrinsic sources of valence were identified including the satisfaction derived from the job itself and the satisfaction gained from accomplishing work goals irrespective of extrinsic rewards. Finally, the model includes separate variables for expectancy I which is the perceived confidence that effort leads to performance (that is, second-level outcomes), and expectancy II which is the perceived belief that performance leads to second-level outcomes. Despite these advancements, the issue of valence remains which pertains to the preference individuals have towards rewards and outcomes also known as the attraction or value of rewards and outcomes.

Numerous researchers from worldwide have used this theory in various situations. Several studies have examined the impact of various factors on job performance, job satisfaction, motivation and ethical behaviour in different occupational settings. For instance, Arvey and Mussio (1973) investigated the influence of expectancy, instrumentality and valence on the job performance of female clerical employees. Mitchell (1974) explored the application of the expectancy model in understanding job satisfaction, career choices and effort. Ivancevich (1976) tested the validity of expectancy theory in predicting motivation levels among engineers using behaviourally anchored scales. Fudge and Schlacter (1999) focused on motivating employees to act ethically. Chiang (2006) examined the role of communication satisfaction as a moderating factor in motivating hotel staff. Chen, Gupta, and Hoshower (2006) analysed expectancy theory and identified factors that motivate business faculty to engage in research activities. The study conducted by Renko, Kroeck, and Bullough (2012) applies the expectation theory to examine the motivation of entrepreneurs in the context of start-up ventures. The application of theoretical frameworks has been used to gain insight into the utilization of expectancy and valence by entrepreneurs in their decision-making processes regarding the continuation of ventures (Holland, 2011). Additionally, researchers have examined the impact of bloggers' work motivation on their intentions and behaviours (Liao, Liu, & Pi, 2011) as well

as explored teachers' perspectives on motivation and pay (Soupir-Fremstad, 2013). Other studies have investigated employees' initiatives towards volunteering within a corporate context (De Oliveira, Madruga, De Sá, & Regis, 2013) and have explored strategies for motivating IT developers (Meymandpour & Pawar, 2018). Finally, several authors have investigated the motivation of young consumers to use artificial intelligence (AI) (Chopra, 2019) the relationship between motivation, persistence, and achievement in a fourth-semester Spanish course (Nagle, 2021) employee motivation in digital economy in the banking industry in Azerbaijan (Hasanov & Aghayeva, 2023) and non-tenure-track faculty motivation (Taylor, 2019).

The proportional model shows the relationship between various factors in accordance with the expectancy theory which implies that expectancies have no effect on behavior unless valence is non-zero and that valence would not have any effect unless there was some expectation that the outcome can be affected by one's actions. Additionally, outcomes might be valent because of their perceived instrumental relationship to other valences. In addition, studies have shown that instrumentality and valence alone can be strong predictors of motivation (Galbraith & Cummings, 1967; Mitchell, 1974; Schmitt & Son, 1981). Therefore, the use of valence, instrument and expectation as model components has seen more widespread use than the initial model by Vroom (Ambrose & Kulik, 1999; Julian, Ofori-Dankwa, & Justis, 2008). Our study investigates the separate impacts of valence, instrumentality and expectation on employee motivation following a similar methodology in earlier studies. The idea makes use of inner and extrinsic motivators to understand potential reasons for workplace actions. Employees' pride and enthusiasm to help clients are examples of intrinsic motivators. On the other hand, extrinsic motivators that provide happiness through compensation, bonuses, commissions, coworkers, and material gains occur when employees perform their duties.

2.2. Hypotheses

H_1: In commercial banks, employee motivation is positively affected by their expectations.

Expectancy is the anticipated probability that an effort will result in a successful outcome. This anticipation is impacted by various variables, including the perceived likelihood of achieving the intended result, the degree of difficulty of the objective and cognitive control (Chopra, 2019). According to Arvey and Mussio (1973) and Chiang (2006) the ability that an employee's effort results in the desired outcome depends on an employee's previous experiences, confidence and perception of how difficult the performance goal. In commercial banks, staff are more motivated when expectations are higher.

H_2: Intrinsic instruments have a positive impact on employee motivation in commercial banks.

The concept that an employee will experience a heightened sense of intrinsic motivation while surpassing performance benchmarks is referred to as an intrinsic incentive. This reward is related to the job in terms of factors such as job responsibility and control, feelings of achievement, the ability to exercise one's judgment, acknowledgment and commendation from colleagues, recognition upon task completion, engagement in more demanding and stimulating work assignments, prospects for career advancement and avenues for personal growth and development. According to Chiang (2006) the utilization of intrinsic instruments within commercial banks has been found to have a favourable influence on staff motivation (Chiang, 2006; De Oliveira et al., 2013; Liao et al., 2011; Lunenburg, 2011).

H_3: Extrinsic instruments positively impact employee motivation in commercial banks.

"Extrinsic instruments" refers to the idea that if an employee performs as expected, they will receive a greater extrinsic reward such as the chance to get along with coworkers, a good salary or wage, additional financial bonuses, a pay raise, stable and secure employment and favorable working conditions (Arvey & Mussio, 1973; Chiang, 2006). Extrinsic tools and employees' motivation in commercial banks are positively correlated (Chiang, 2006; De Oliveira et al., 2013; Liao et al., 2011; Lunenburg, 2011).

H_4: Intrinsic valences positively impact employee motivation in commercial banks.

Intrinsic valences are related to the satisfaction of incentives and are the personal value that the employee places on rewards. In contrast, intrinsic valences are the extent to which commercial bank intrinsic rewards fulfill the goals or aims of the employee and the amount to which those potential rewards appeal to them. Employee motivation increases as the degree of intrinsic values with employees increases (Chiang, 2006; Liao et al., 2011; Lunenburg, 2011; Maslow, 1943; McClelland, 1987).

H_5: Extrinsic valences have a positive impact on employee motivation in commercial banks.

Extrinsic valences are the extents to which an employee's own goals or wants are met by the extrinsic incentives offered by commercial banks as well as the extent to which this satisfaction attracts the employee. In commercial banks, extrinsic valences have a positive impact on staff motivation (Chiang, 2006; Hasanov & Aghayeva, 2023; Liao et al., 2011; Maslow, 1943; McClelland, 1987).

H_6: Motivating employees in commercial banks has a positive influence on their job performance.

Motivation refers to an employee's eagerness to expend significant effort to accomplish the bank's objectives. Job performance is a measure of an employee's work completion in comparison to their key performance indicators (KPIs) as set by the bank. When motivation increases, job performance quality also increases (Amir, 2022) especially given the competitive nature of the banking industry in attracting customers. In this context, employees play a critical role in bringing in customers while the roles of working conditions and product policies are secondary.

Figure 3 presents the research model based on the theoretical framework and hypothesis development.

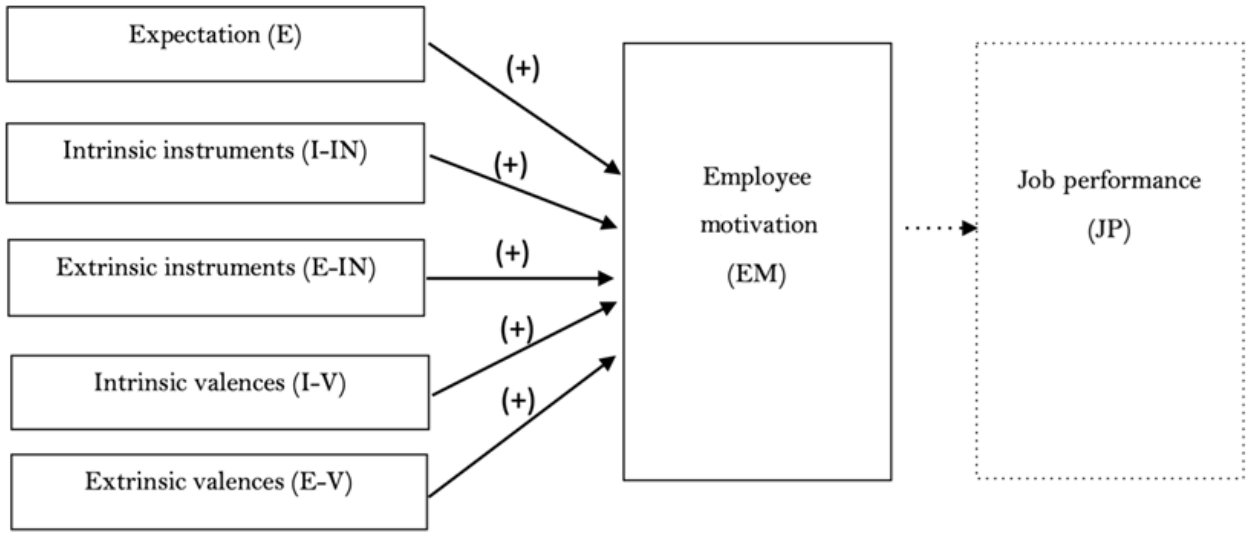

Figure 3. Research model.

3. RESEARCH METHODOLOGY

3.1. Research and Sampling Method

This study employed both quantitative methods (questionnaire survey) and qualitative approaches (in-depth interviews and secondary data collection). The in-depth interviews were structured into two segments: (i) engage experts with 5-20 years of experience in working with and managing employees in commercial banks to gather insights on the internal determinants influencing employees' expectations which in turn foster motivation for effective work performance and to determine the values for an expectation scale for questionnaire design. (ii) Seeking expert guidance on research findings.

We conducted surveys directly with bank employees at the staff level. As the stratified sampling approach closely resembles random sampling and necessitates a sample frame, we employed it in the questionnaire survey. Strata and classifications must be derived from the population. In our research, we segmented the population into

commercial banks based on permitted capital levels and ownership structures (private and state-owned).

We also helped them with question-answering. Some questionnaires are answered online. We distributed 1200 questionnaires, 198 of which were discarded because they did not meet the requirements. The remaining 901 votes were legitimate and subjected to analysis, satisfying the findings of Hair, Anderson, Tatham, and Black (1998) and Tabachnik and Fidell (1996). Appendix 1 provides a discussion of sampling statistics.

Respondents are employees of 16 Vietnamese commercial banks including (i) 3 state-owned joint stock commercial banks which are the Joint Stock Commercial Bank for Foreign Trade of Vietnam, the Vietnam Joint Stock Commercial Bank for Industry and Trade and the Joint Stock Commercial Bank for Investment and Development of Vietnam and (ii) 13 private joint stock commercial banks with varying charter capital and staff numbers.

We surveyed 16 commercial banks in which the number of respondents collected from the Bank for Investment and Development of Vietnam contributed the most (107 votes) while the number of questionnaires received from the petroleum bank was the least (16 votes). This fact is consistent with the size of the authorized capital of the banks. The gender structure in the survey sample presents 64.4% of females and 33.6% of males. This structure is also consistent with the ratio of males and females commonly found in the banking industry. With the banking industry rapidly growing in the past 15 years, the working age of bankers is generally quite young. Among the respondents, the 25 – 35 age is mostly at the employee level. Meanwhile, the rate of the 35 - 40 and over 40 age groups holding managerial positions is higher than that of the 25 – 35 age group.

Descriptive analysis, principal component factor analysis, confirmatory factor analysis (CFA) and moderating effect check by structural equation modeling (SEM) were the data analysis techniques employed in this study. These processes were carried out using Statistical Package for the Social Sciences (SPSS) version 22 and Analysis of Moment Structures (AMOS) version 22. The 7 research variables were subjected to descriptive analysis. Frequencies were conducted to calculate the number of participants for each demographic. Principal component analysis with Promax rotation was used to assess the reliability of the scale and determine if each suggested construction extracted one element. Confirmatory factor analysis (CFA) was performed to evaluate the accuracy and validity of the measurements for the model's latent components. After the measurements had been verified, the suggested model and the assumptions were put to the test using structural equation modeling (SEM).

3.2. Measurement Items

Multi-item scales that had been approved in earlier research were found and modified to meet the study's context to experimentally evaluate the hypotheses. Five factors about the job performance and motivation of the banks' employees were included in a questionnaire: Intrinsic instruments, extrinsic instruments, intrinsic valences, extrinsic valences and expectation.

Responsibility or control over the job, feelings of accomplishment, opportunities to use own judgment, recognition or praise from colleagues at work, praise upon task completion, more challenging and interesting work tasks, opportunities for promotion, personal growth and development (Arvey & Mussio, 1973; Chiang, 2006) as well as recognition by customers (suggested by the authors) are among the intrinsic instruments. Extrinsic instruments encompass six constructs: the ability to get along with coworkers, a good salary or wage , more monetary bonuses, greater pay increases, consistent and stable employment and good working circumstances (Arvey & Mussio, 1973; Chiang, 2006).

In the expectation, four constructs from studies by Ivancevich (1976), Arvey and Mussio (1973) and Chiang (2006) are listed: Supervisors will see employees that put a lot of effort into their work as effective performers since their work will be of a much higher standard, they will be more productive and they will achieve much more.

Employee motivation is determined by nine different factors such as feeling satisfied when performing the task poorly, feeling depressed when performing the task poorly, taking pride in performing the task as well as they are

able to, relishing the memory of the day they performed the task well, frequently thinking about how to perform the task better, the willingness to work to complete the task, frequently trying as hard as they can to complete the task even in difficult situations and exerting more effort to complete the task to meet the bank's objectives (Dung, 2015; Steers & Porter, 1983).

To measure work performance, eight constructs are used: completing the work quantity, work quality (Hackman & Lawler, 1971) cooperating and shouldering the extra load (Arvey & Mussio, 1973) working on time, planning following the legislation, the bank's regulations when working and consulting extra issues for customers (as suggested by the authors).

These variables were measured using a 5-point scale: "If I complete my job well, I will definitely…?" (1 = extremely disagree and 5 = extremely agree).

The pair constructions using the aforementioned intrinsic and extrinsic instruments examined the valences of both the intrinsic and extrinsic components (Arvey & Mussio, 1973; Chiang, 2006). When given these prizes, the subjects were asked to select one of five adjectives ranging from "highly satisfied" to "highly dissatisfied" (1 = highly dissatisfied" and 5 = highly satisfied). (I feel satisfied when….).

The measurement items are presented in Appendix 2.

4. RESEARCH RESULTS

4.1. In-Depth Interview

4.1.1. Finding

Firstly, a reliability test is run on all measurements of key variables. Variables with Cronbach's alpha > 0.6 and item-total correlation coefficients of the variables > 0.3 are deemed reliable.

Secondly, the utilization of exploratory factor analysis (EFA) involves the exclusion of scales that exhibit inadequate reliability so retaining only those scales that demonstrate a substantial level of consistency. These reliable scales can then be categorized into factors that effectively capture the underlying measurement components of the variables within the model. The findings suggested that the remaining items met the criteria for further analytical procedures. A total of seven constructs are employed in the process of conducting exploratory factor analysis (EFA). The Bartlett test is required to satisfy the factor analysis criteria with a significance level of 0.05 (sig 0.05). The eigenvalues in both exploratory factor analyses (EFAs) above the threshold of 1 indicating the amount of variation accounted for by each component. Additionally, the cumulative eigenvalues surpass 50% suggesting a substantial proportion of variance explained by the factors. Furthermore, the Kaiser-Meyer-Olkin (KMO) coefficient exceeds the minimum threshold of 0.5 demonstrating the adequacy of the data for factor analysis. All factors have standardized loading higher than 0.3 that indicates a moderate correlation between the item and the factor (see Table 1).

Table 1 shows the results of reliabilities and mean of each items, the KMO coeffiecient, cumulative eigenvalues and sig of Bartlett's test.

Table 1. Reliabilities and mean.

Constructs	Cronbach 's alpha	Standardized factor loading	Mean
Intrinsic instruments I-IN1/I-IN2/I-IN3/I-IN4/I-IN5/I-IN6/I-IN7/I-IN8/I-IN9	0.91	0.43/0.76/0.75/0.58/0.63/0.72/00.76/0.78/0.70	4.02/3.89/3.78/3.87/4.0/3.9/3.88/3.81/3.99
Extrinsic instruments E-IN1/ E-IN2/E-IN3/E-IN4/E-IN5/E-IN6	0.88	0.86/0.80/0.70/0.63/0.57/0.48	3.6/3.78/3.83/3.89/3.79/3.91
Intrinsic valences I-V1/I-V2/I-V3/I-V4/I-V5/I-V6/I-V7/I-V8/I-V9	0.94	0.63/0.67/0.65/0.84/0.89/0.93/0.79/.65/0.66	4.13/4.18/4.19/4.17/4.21/4.18/4.16/4.27/4.28

Constructs	Cronbach 's alpha	Standardized factor loading	Mean
Extrinsic valences E-V1/E-V2/E-V3/E-V4/E-V5/E-V6	0.94	0.85/0.86/0.92/0.82/ 0.72/0.69	4.28/4.29/4.30/4.27/4.22/4.2 8
Expectancy E1/E2/E3/E4	0.90	0.81/0.89/0.80/0.60	4.20/4.20/4.24/4.16
Motivation EM1/EM2/EM3/EM4/EM5/EM6/E M7/EM8/EM9	0.89	0.62/0.61/0.72/0.71/ 0.52/0.64/0.69/0.70/ 0.64	4.00/3.84/4.08/3.93/4.04/4.1 2/4.12/4.10/3.95
Job performance JP1/JP2/JP3/JP4/JP5/JP6/JP7/JP8	0.90	0.74/0.86/0.85/0.74/ 0.68/0.64/0.63/0.60	3.81/3.89/3.92/4.02/3.86/3.96/ 4.16/4.20
KMO=0 .965			
Cumulative % = 64.275%			
Bartlett's test of sphericity: Sig =0.000			

Thirdly, a confirmatory test of the measurement model is conducted. The confirmatory factor analysis often creates a model based on the assumption that the empirical data were characterized or generated based on a number of parameters. Such a model is based on previous knowledge about the data structure that was obtained through a theory, hypothesis or knowledge based on earlier research. It is important to note that fewer latent variables were used to achieve factor loading larger than 0.5. The main consideration in evaluating each model is whether or not these models are appropriate. Chi-square (X2) and other goodness-of-fit metrics can be used to address this. In fact, a suitable model will satisfy the following optimal conditions. Since it indicates the discrepancy between the data and the model, a lower value of this statistic indicates better fit. The same applies to RMSEA (root mean square error of approximation) which measures the mean square of model errors. The index GFI (goodness of fix **index)** which is not dependent on the same size refers to the relative variance justified jointly by the model: a value close to 1 indicates better fit. According to CFA confirmatory factor analysis (CFA) results, the model has adequate goodness of fit: Chi-squared/df=2.973<3, GFI=0.857 (>0.8), TLI = 0.921(>0.8), CFI = 0.926 (>0.8), RMSEA=0.047 (<0.05). The amounts of composite reliability (CR) and average variance extracted (AVE) are acceptable. The P-value for every factor is less than 0.05 demonstrating that there are statistically significant correlations among all determinants in the model at a 95% confidence level. As a result, they can be used in SEM analysis to determine how the independent and mediating variables affect the dependent variable.

Table 2. CFA results.

Constructs	CR	AVE
JP	0.9	0.529
EM	0.888	0.503
E-IN	0.869	0.597
E	0.899	0.69
I-IN	0.91	0.591
V-I	0.935	0.614
V-E	0.941	0.728
Chi-squared/df=2.973		
GFI=0.857		
TLI = 0.921		
CFI = 0.926		
RMSEA=0.047		

Table 2 presents the results of composite reliability (CR), average variance extracted (AVE) and goodness of fit indices.

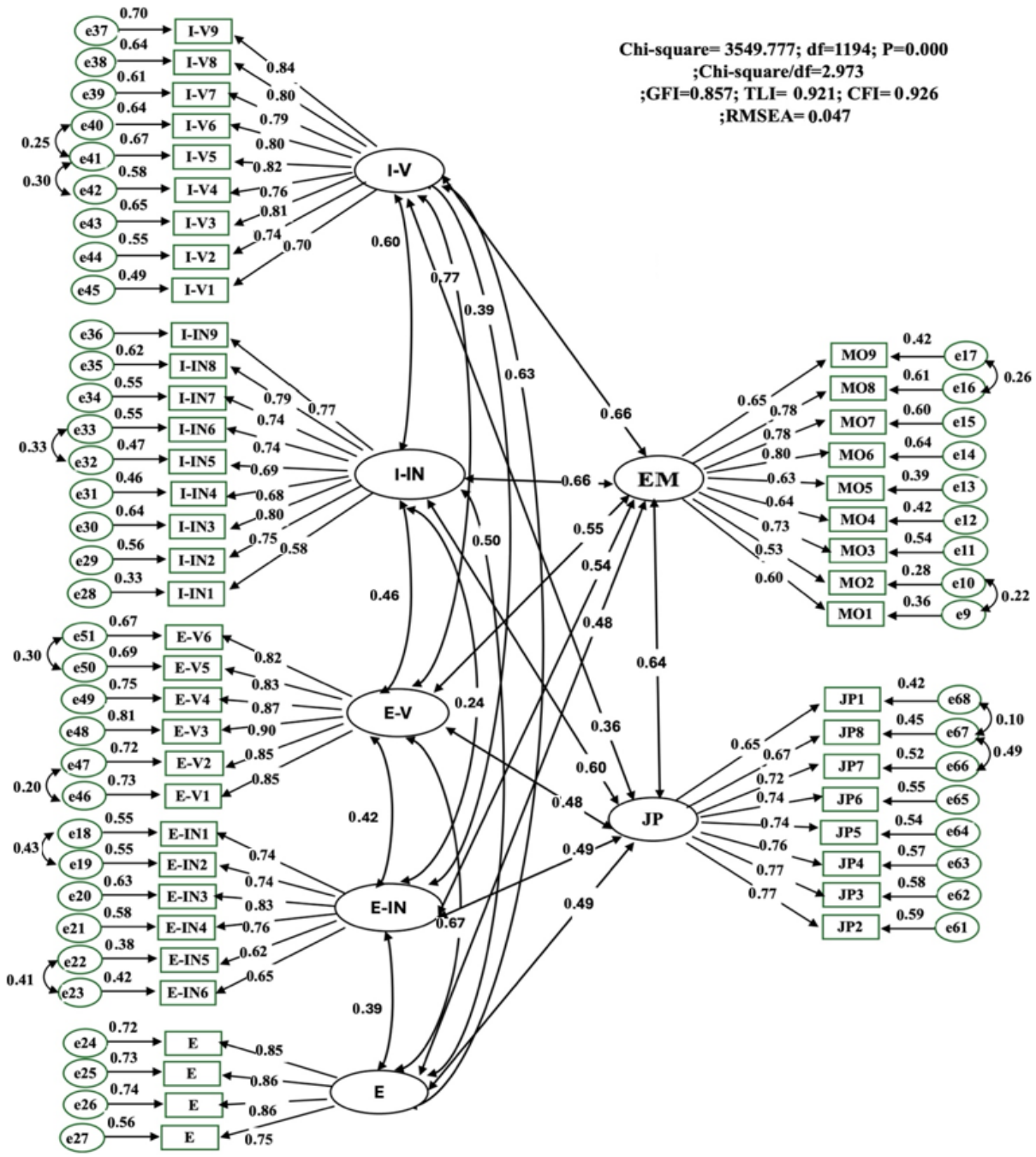

Figure 4. CFA result

Figure 4 illustrates the CFA results.

In the next step, we perform SEM (using AMOS 22) to examine the hypotheses (see Figure 5).

In the context of structural equation modeling, the assessment of the compatibility between the observed data and the underlying conceptual model is conducted through the evaluation of goodness of fit. In addition, the statistical significance of each association is assessed. The model exhibits a favorable level of goodness of fit as seen by an X2/df value of 2.974 which is below the recommended threshold of 3. Additionally, the GFI value of 0.86 is above the acceptable threshold of 0.8. Furthermore, the TLI and CFI values of 0.922 and 0.927 respectively beyond the recommended threshold of 0.9 while the RMSEA values of 0.033 are below the desired threshold of 0.05. Table 3 displays the significance levels of each association.

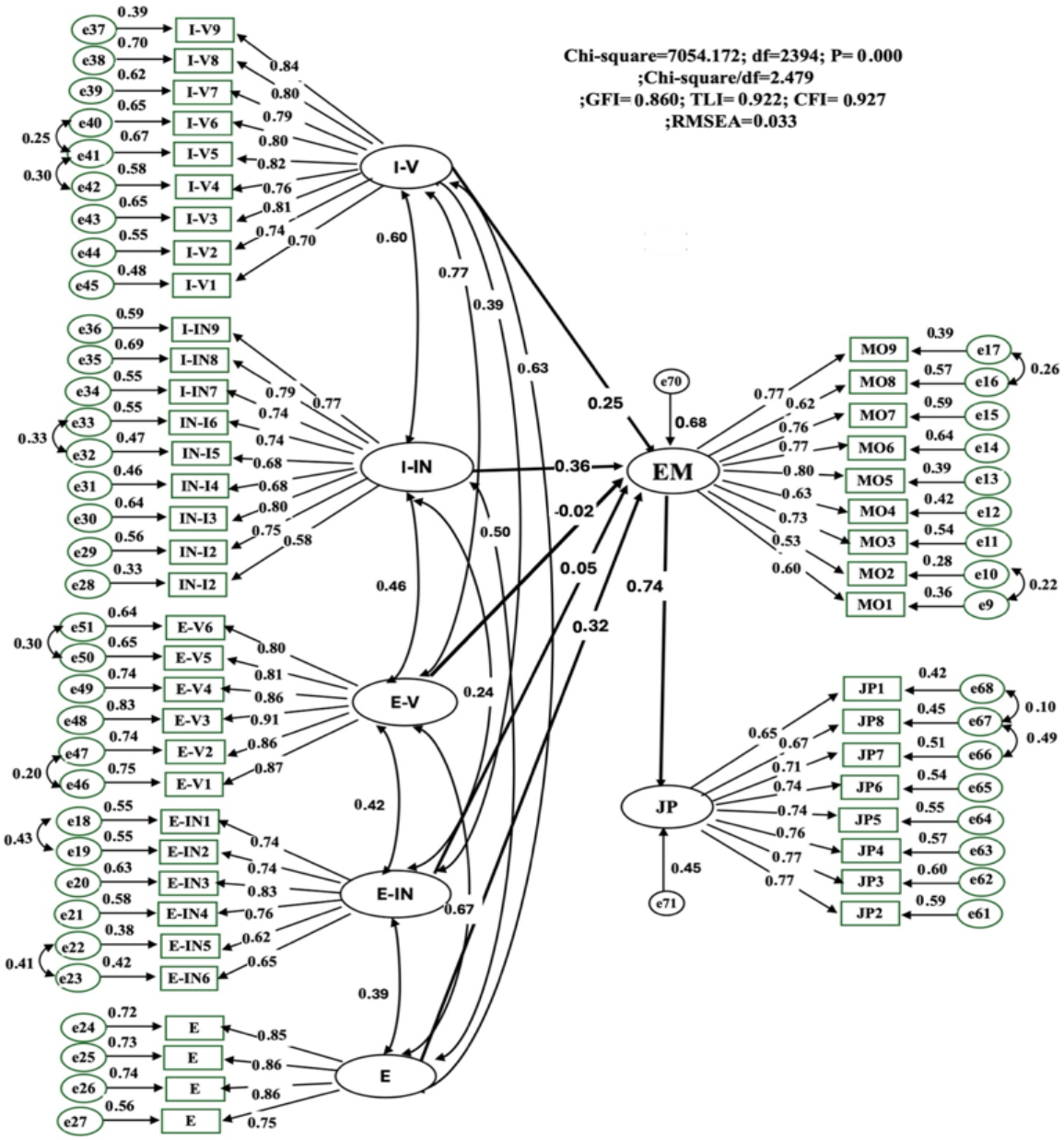

Figure 5. SEM result.

Table 3. Structural equations modeling analysis results.

Relationship	S.E.	C.R.	P	Estimate	Status
EM <--- I-IN	0.064	5.615	***	0.357	Accepted
EM <--- I-V	0.050	5.011	***	0.248	Accepted
EM <--- E-V	0.032	-0.359	0.720	-0.012	Rejected
EM <--- E-IN	0.033	1.525	0.127	0.050	Rejected
EM <--- E	0.033	9.697	***	0.316	Accepted
JP <--- EM	0.051	14.605	***	0.740	Accepted
Squared multiple correlations					
EM	0.675				
JP	0.453				

Note: ***: p < 0,001.

The results show that the intrinsic instruments (I-IN), expectation (E), and intrinsic valences (I-V) all have positive standardized beta and a p-value coefficient less than 0.05 at the significance level of 0.05. This suggests that these components have a favorable effect on employee motivation (EM). According to the results of the

standardized beta coefficient, intrinsic rewards (I-IN) which have a standardized beta of 0.357 have the greatest impact on employee motivation followed by expectations (E- 0.316) and intrinsic valences (I-V- 0.248). At the significance level of 0.05, employee motivation factors had a favorable impact on job performance with a standardized beta coefficient of 0.74. The coefficient of determination (R2) quantifies the proportion of variance that may be explained by separate constructs. These distinct variables have the capacity to explain 58.9% of the variability in "employee motivation" within the context of Vietnamese commercial banks based on the structural model. Typically, a coefficient of determination (R2) of 50% is seen as satisfactory in the realm of social science research particularly when examining the influences exerted by various factors on the dependent variable.

The relationship between employee motivation and employees' job performance can account for 39.5% of the observed variation as indicated by an R-squared value of 0.395. The aforementioned numerical value holds considerable significance as it underscores the pivotal role of motivation in enhancing the productivity and effectiveness of personnel within the commercial banking sector. Table 4 illustrates the results of hypothesis testing. Hypotheses 1, 2, 4, 6 are accepted while hypotheses 3 and 5 are rejected. Expectation, intrinsic instruments, intrinsic valence have a positive impact on CB's employee motivation and employee motivation has a positive impact on CB's employee performance. However, extrinsic instruments and extrinsic valences do not have a statistically significant effect on the work motivation of employees in commercial banks.

Table 4. Results of hypothesis testing.

No.	Hypotheses	Finding
1	H1: Expectation has a positive impact on CB's employee motivation.	Accepted
2	H2: Intrinsic instruments have a positive impact on CB's employee motivation.	Accepted
3	H3: Extrinsic instruments have a positive impact on CB's employee motivation.	Rejected
4	H4: Intrinsic valences have a positive impact on CB's employee motivation.	Accepted
5	H5: Extrinsic valences have a positive impact on CB's employee motivation.	Rejected
6	H6: Employee motivation has a positive impact on CB's employee performance.	Accepted

5. DISCUSSION AND IMPLICATIONS

The findings of this study indicate that the relationship between employee motivation and job performance in Vietnamese commercial banks may be elucidated through the framework of expectation theory. The determination coefficients of 0.675 and 0.453 were found to be statistically significant. The factors of intrinsic instruments, intrinsic valences and anticipation collectively account for 67.5% of the observed variability in employee motivation. Furthermore, the diversity in staff job performance may be attributed to 45.3% of the variance described by their motivation levels in the workplace.

5.1. The Presence of "Intrinsic Rewards" has a Favorable Influence on Employee Motivation within the Context of Commercial Banks.

The component "intrinsic rewards" demonstrates the highest level of influence on employee motivation in commercial banks as indicated by its beta value of 0.357. The anticipation of receiving various benefits such as job responsibility and control, feelings of accomplishment, opportunities for autonomous decision-making, recognition and praise from colleagues, acknowledgment upon successful task completion, engagement in challenging and stimulating work tasks, prospects for career advancement, personal growth and development and customer recognition is expected to enhance the motivation to work by 0.357 units. Managers in commercial banks should cultivate a sense of trust among employees by assuring them that their diligent efforts would yield intrinsic rewards which will be duly provided to them to bolster employee motivation.

The current perception of employees as indicated by a mean score of 3.9 suggests that commercial banks have

effectively implemented these criteria to motivate their workforce. The descending order of employees' average agreement regarding the allocation of rewards for good work results is as follows: I-IN1 - 4.02 (responsibility or control over my job), I-IN5- 4 (recognition or praise from colleagues at work), I-IN9- 3.99 (personal growth and development), I-IN6-3.9 (interesting work), I-IN2- 3.89 (feelings of accomplishment), I-IN7-3.88 (more challenging and interesting work tasks), I-IN4-3.87 (recognition by customers), I-IN8-3.81 (opportunities for promotion) and I-IN3-3.78 (chances to use own judgment). The outcome pertaining to the factor of "receiving praise" exhibits a lower value compared to the outcome associated with the factor of "recognition or praise from colleagues". Additionally, the average score for this factor falls within an acceptable range (greater than 3 and less than 4). This indicates that the encouragement provided by colleagues who may include supervisors, subordinates or partners has a more favourable influence on the staff compared to the general praise policy implemented by the banks. Two potential factors may contribute to this issue: an ineffective praising program and inadequate implementation of sound policies. Enhancing the efficacy of policies or internal training rather than relying solely on praising policies is crucial for managers to effectively implement policy. Enhancing communication is vital to effectively convey recognition to staff members for their exemplary performance, irrespective of the adequacy of existing praise policies and their implementation.

5.2. Expectations Have a Positive Impact on Employee Motivation in Commercial Banks.

The component "expectation" exhibits a significant impact on employee motivation in commercial banks as indicated by its beta value of 0.316 which ranks it as the second most influential factor. The motivation of employees is expected to improve by 0.316 units expect that an increase of 1 unit in the belief that "additional efforts will enhance performance, productivity and yield greater accomplishments" will occur. The ability to achieve desired outcomes independently, the level of challenge associated with the objective and the extent of cognitive control exerted are all variables that influence the perception of expectations. This demonstrates that the alignment of job analysis and job design with the employee's capacity is crucial emphasizing the significant role of personality. The establishment of employee conviction regarding the positive relationship between increased effort in their work and improved job performance as well as the provision of consistently supportive working conditions significantly influences their motivation in the workplace. These findings are similarly in line with the research conducted by Chiang (2006).

5.3. The Intrinsic Valences Have a Positive Impact on Employee Motivation in Commercial Bank.

The third component that positively influences the working motivation of staff at the commercial bank is the intrinsic valences (I-V) characterized by a beta coefficient of 0.248. The hierarchy of choice for various incentives is organized as follows: The following are the identified factors that contribute to personal growth and development (I-V9-4.28), opportunities for promotion (I-V8-4.26), recognition and praise from colleagues at work (I-V5-4.21), chances to exercise one's judgment (I-V3-4.19), feelings of accomplishment (I-V2-4.18), engaging and stimulating work (I-V6-4.18), recognition by customers (I-V4-4.17), more challenging and interesting work tasks (I-V7-4.16) and responsibility and control over one's job (I-V1-4.13). When formulating motivation policies, commercial banks should take into consideration variables such as personal growth and development as well as the desire for promotion opportunities which have been identified as having the highest scores. In the present era, the majority of commercial banks have implemented annual training and development initiatives with the aim of facilitating employee growth and advancement. Several commercial banks have established their own training schools and centres equipped with modern library systems and modern facilities. Additionally, certain banks have dedicated departments solely responsible for training such as the Vietcombank Training Center, BIDV Training and Research Institute, Innovation Lab at MBbank, Techcombank Training Center, Sacombank Training Center, and Seabank Academy. Despite the continued high demand for these valences, they remain crucial in enhancing employee motivation.

5.4. Extrinsic Instruments and Extrinsic Valences Do Not Have a Positive Impact on Employee Motivation at Commercial Banks.

This study found that the factors of extrinsic instruments and extrinsic valences do not have a statistically significant effect on the work motivation of employees in commercial banks. This conclusion is supported by the coefficient P-values of 0.237 and 0.710 which are both greater than the significance level of 0.05. Therefore, the expectation that performing well in their job would lead to benefits such as building relationships with colleagues, receiving financial rewards (such as a good salary, monetary bonuses and pay increases) having stable and secure employment and enjoying favorable working conditions as well as the employees' desire for these rewards, do not have a statistically significant impact on their motivation to work. This finding contradicts the research findings of Moodley and Hove (2018), Güngör (2011), Chiang (2006), Hasanov and Aghayeva (2023), Amir (2022) and Taylor (2019). In the context of relationship development with colleagues in commercial banks, it is worth noting that numerous job roles include the possession of teamwork abilities. Examples of such positions include tellers, customer relations personnel and treasured staff. Personnel are required to adhere to a rigorous procedural framework that necessitates the involvement of multiple departments to fulfill their job responsibilities. When the task is executed proficiently, it is likely to enhance the interpersonal dynamics among colleagues involved in the process, hence perhaps fostering a more positive work environment and facilitating beneficial outcomes in their subsequent endeavors. In the context of a financial institution, an officer is responsible for various tasks related to loan processing. Initially, the officer is required to prepare a submission for re-approval and grant approval. Subsequently, they proceed to the credit operation department where they undertake the task of composing the loan contract, ensuring its notarization and overseeing the foreclosure of collateral assets if necessary. Additionally, the officer is responsible for submitting a disbursement proposal to the credit operation department which facilitates the release of funds to the client. Furthermore, they provide ongoing support in terms of collection activities throughout the loan period. In the context of commercial banking, employee remuneration is contingent upon the achievement of Key Performance Indicators (KPIs), so establishing a direct correlation between work performance and financial compensation. Consequently, it is evident that proficient task execution leads to an augmentation of these monetary incentives. The survey findings indicate that the mean scores for agreement with the statement "Employees will receive financial incentives for performing their job duties effectively" are not low. Specifically, the scores are as follows: E-IN3-3.83 (indicating a preference for increased pay), E-IN2-3.78 (indicating a preference for further monetary bonuses), and E-IN1-3.6 (indicating a preference for a satisfactory salary/wage). The potential economic advantages and incentives encompass unsecured loans, comprehensive personal care coverage including health insurance, access to medical examinations and treatments as well as participation in affiliate programs offered by recognized healthcare institutions. Moreover, the banking sector in Vietnam exhibits a much higher average wage when compared to other businesses. The employees' conviction in the correlation between diligent labour and favourable work conditions as well as the attainment of stable and secure employment is reflected in the acceptable levels of E-IN6 (3.91) and E-IN4 (3.89). However, the intrinsic valences and expectations have no significant effect on employee motivation in contrast to the inherent instruments. This conclusion provides support for Herzberg's two-factor theory and the self-determination theory of motivation suggesting that intrinsic drive is derived from the hygiene aspects inherent in the job itself. The influence of intrinsic factors on motivation is substantial and has a more enduring effect on employee motivation when compared to determinants associated with the working environment. The perception of attaining these inherent rewards along with their appeal significantly enhances employee motivation.

5.5. There is a Positive Correlation between Employee Motivation and Job Performance.

The level of employee motivation accounts for 67.5% of the observed variance in work performance outcomes. This finding is significant due to the considerable investment in capital and time required for enhancing skills,

facilities and other resources which may also be asynchronous across various departments. In contrast, the implementation of motivating policies is comparatively simpler and more cost-effective. Financial institutions have the capability to provide synchronous solutions that necessitate minimal capital expenditure and yield significant effects on diverse categories of personnel. The validation of this hypothesis further underscores the significance of the research and emphasizes the importance of establishing effective motivational strategies for employees in the context of commercial banks. This result is consistent with Amir (2022).

5.6. Other Discussion

This study also reveals that the perceived importance of extrinsic motivators is rated higher than that of intrinsic motivators with average scores of 4.27 and 4.19, respectively. Nevertheless, within the proposed research framework, it is seen that intrinsic valences exert a substantial influence on employee motivation while extrinsic valences do not exhibit a similar impact. This result is consistent with the findings of Liao et al. (2011). Based on the findings of content motivational theory, it is recommended that managers employ additional extrinsic incentives to bolster employee engagement, as needs have been identified as significant motivators. In contrast, the score of intrinsic instruments is greater than that of extrinsic instruments with a respective average of 3.9 and 3.8. In a nutshell, it is crucial to acknowledge the significance of extrinsic elements and ensure their fulfillment. When employing the process approach specifically using Vroom's expectancy theory, motivation is determined by the factors of expectation, instruments and valences. It is crucial to instill in them the belief that increased effort will lead to the attainment of intrinsic rewards while also fostering the development of their intrinsic reward needs to ensure long-term employee motivation. When formulating motivational policies, it is imperative for managers of commercial banks to consider these elements.

6. CONCLUSION

The factors that contribute to employee motivation including the perceived likelihood of effort leading to good performance, the belief in receiving intrinsic rewards for meeting performance expectations and the alignment of intrinsic rewards with personal goals or needs account for 67.5% of the variation in employee motivation within commercial banks. These intrinsic rewards encompass various aspects of the job such as responsibility and control, feelings of accomplishment, autonomy in decision-making, recognition and praise from colleagues and customers, engaging and challenging tasks, opportunities for promotion, personal growth and development and recognition by customers. These findings are in line with both Herzberg's two-factor theory and the self-determination theory. Extrinsic motivation which is related to the working environment has a negative impact on employees more than intrinsic motivation which comes from the nature of the job. Employees can be more motivated by their perception of earning intrinsic rewards as a result of their effort and by its appeal than by their perception of receiving extrinsic rewards. Managers of commercial banks can use these findings to develop more effective and efficient motivating policies.

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Institutional Review Board Statement: The Ethical Committee of the Banking Academy of Vietnam, Vietnam has granted approval for this study on 12 August 2023 (Ref. No. 2500/HD-HVNH-VNC1).
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: Writing review and editing, writing original draft, methodology, formal analysis, conceptualization, H.L.T.; writing review and editing, resources, H.N.V. Both authors have read and agreed to the published version of the manuscript.

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Appendix 1. Sampling statistic description.

No	Bank	Respondents	Percentage (%)
1	Bank for investment and development of Vietnam	107	11.9
2	Vietnam technological and commercial joint- stock bank	105	11.7
3	Vietnam technological and commercial joint- stock bank	89	9.9
4	South East Asia bank	79	8.8
5	Asia commercial joint stock bank	75	8.3
6	Saigon Thuong Tin commercial joint stock bank	69	7.7
7	Vietnam prosperity joint stock commercial bank	64	7.1
8	An Binh commercial joint stock bank	56	6.2
9	Tien Phong commercial joint stock bank	40	4.4
10	Vietnam export import bank	38	4.2
11	South Asia bank	38	4.2
12	Vietnam international bank	36	4.0
13	Vietnam Joint stock commercial bank for industry and trade	34	3.8
14	Commercial bank for foreign trade of Vietnam	33	3.7
15	National citizen bank	21	2.3
16	Petrolimex group commercial joint stock bank	17	1.8
Gender			
1	Female	598	64.4
2	Male	303	33.6
Age			
1	<25	224	24.86
2	25-30	408	45.28
3	30-35	185	20.53
4	35-40	68	7.55
5	>40	16	1.78
Total		901	100

Appendix 2. Measurement items source and coding.

No	Measurement items	Source
Expectancy		
E1	If I work very hard, the quality of my job performance will be greatly enhanced	Chiang (2006) and Ivancevich (1976)
E2	If I work very hard, my productivity will improve significantly	Chiang (2006)
E3	If I work very hard, I will get a lot more accomplished	Chiang (2006)
E4	If I apply a great deal of effort in my job, I will be regarded by my supervisors as an effective performer	Arvey and Mussio (1973) and Chiang (2006)
Intrinsic instrument		
If I complete my job well, I will definitely.....		
I-IN1	Responsibility/Control over my job	Chiang (2006)
I-IN2	Feelings of accomplishment	Arvey and Mussio (1973)
I-IN3	Chance to use own judgment	Arvey and Mussio (1973)
I-IN4	Recognition by customers	Authors
I-IN5	Recognition/Praise from colleagues at work	Chiang (2006)
I-IN6	Interesting work	Chiang (2006)
I-IN7	More challenging work tasks	Chiang (2006)
I-IN8	Opportunities for promotion	Chiang (2006)
I-IN9	Personal growth and development	Arvey and Mussio (1973)
Extrinsic instrument		
If I complete my job well, I will definitely.....		
E-IN1	Good salary/Wage	Arvey and Mussio (1973) and Chiang (2006)
E-IN2	More monetary bonuses	Chiang (2006)
E-IN3	More pay increase	Chiang (2006)
E-IN4	Steady and secure employment	Arvey and Mussio (1973)
E-IN5	Getting along with co-workers	Arvey and Mussio (1973)

No	Measurement items	Source
E-IN6	Good work conditions	Authors
Intrinsic valence		
I want/ I feel satisfied when….		
I-V1	Responsibility/Control over my job	Chiang (2006)
I-V2	Feeling of accomplishment	Arvey and Mussio (1973)
I-V3	Chances to use own judgment	Arvey and Mussio (1973)
I-V4	Recognition by customers	Authors
I-V5	Recognition/Praise from colleagues at work	Chiang (2006)
I-V6	Interesting work	Chiang (2006)
I-V7	More challenging work tasks	Chiang (2006)
I-V8	Opportunities for promotion	Chiang (2006)
I-V9	Personal growth and development	Arvey and Mussio (1973)
Extrinsic valence		
I want/ I feel satisfied when….		
E-V1	Good salary/Wage	Arvey and Mussio (1973) and Chiang (2006)
E-V2	More monetary bonuses	Chiang (2006)
E-V3	More pay increase	Chiang (2006)
E-V4	Steady and secure employment	Arvey and Mussio (1973)
E-V5	Getting along with co-workers	Arvey and Mussio (1973)
VE6	Good work conditions	Authors
Working motivation		
EM1	I feel satisfy when I do my job well	Warr, Cook, and Wall (1979)
EM2	I feel down when I do my job not well	
EM3	I take pride in doing my job as well as I can	
EM4	I like to think about the day I do my job well	
EM5	I often think how to do the job better	
EM6	I'm ready to work earlier or later to complete my job	Dung (2015) and Steers and Porter (1983)
EM7	I often try my best to complete my job even in difficulties	
EM8	I use my great effort to complete my job to achieve my bank's objectives	
EM9	I'm always eager with my job	
Job performance		
JP1	Complete the work quantity	Hackman and Lawler (1971)
JP2	Complete the work quality	Hackman and Lawler (1971)
JP3	Complete the work on time	Authors
JP4	Cooperating and shouldering extra load	Authors
JP5	I plan when doing the job	Arvey and Mussio (1973)
JP6	I consult extra issue for customers	Authors
JP7	I follow the legislation when working	Authors
JP8	I follow the bank's regulations when working	Authors