Deciphering the mediating role of problem-solving skills in predicting employee turnover intention decision

Osaro Aigbogun1
Olawole Fawehinmi2
Meng Xing3
Sheikh Ahmad Faiz
Sheikh Ahmad Tajuddin4

1Faculty of Business, Curtin University Malaysia, 98009, Miri, Sarawak, Malaysia.
Email: osaro.aigbogun@curtin.edu.my
2Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia.
Email: olawolefawehinmi@umt.edu.my
3Binary University of Management and Entrepreneurship, 47100, Puchong, Selangor, Malaysia.
Email: mengteam@163.com
4Faculty of Business and Management, Universiti Sultan Zainal Abidin, 21300 Kuala Nerus, Terengganu, Malaysia.
Email: sheikhafaiz@unisza.edu.my

ABSTRACT

This study examines how problem-solving skills act as a mediator between external motivation, internal motivation, emotional intelligence, and employee turnover intentions. In order to achieve the objective of this study, a quantitative research approach was employed, and the survey data was collected through purposive sampling from a sample of 101 workers in China. The findings of the partial modeling analysis from Smart PLS 3 affirmed the significant influence of external motivation and problem-solving skills on employee turnover intentions. Problem-solving abilities significantly moderate the association between emotional intelligence and employee turnover intention, even though there is no substantial correlation between internal motivation and emotional intelligence in terms of employee turnover intention. However, this mediating effect is not present in the relationships between external/internal motivation and employee turnover intention. This study provides significant insights into the predictors of employees’ intention to leave the workplace in China’s Shandong Province and policy implications for retaining key employees. This study can help managers and policymakers formulate policies that increase employees’ motivation and problem-solving skills to keep them from leaving the organization. Also, this study shows that creating an organizational environment that fosters the development of emotional intelligence through coaching will help employees be resilient with problem-solving skills and remain in the organization.

Contribution/ Originality: The novelty of this study is the fusion of intrinsic motivation, extrinsic motivations, and problem-solving skills in determining employees’ decision to leave the workplace, which contributes to the social exchange theory.

1. INTRODUCTION

The lifeblood of organizations are the employees who put their talent into the organization's survival and thriving. The innovativeness and skills of employees ensure that organizations can deliver value to their clients and customers (Khan, Raya, & Viswanathan, 2022). Employees have been shown to increase the performance of
organizations (Abdullahi et al., 2022; Pang & Lu, 2018) through their engagement (Tensay & Singh, 2020), employee job performance (Pang & Lu, 2018), and personal competencies (Salman, Ganie, & Saleem, 2020). For these reasons, organizations continuously seek to retain their employees (Hu, Wang, Lan, & Wu, 2022; Skelton, Nattress, & Dwyer, 2020; Yusliza et al., 2021). Retaining employees in the organization has always been a recurring concern among top management. Employees need reasons to stay in the organization, such as innate or external reasons; hence, top management must provide these reasons.

Despite the numerous studies on retaining employees, employees have been reported leaving the organizations in droves. For instance, in May 2022, the United States had a notable increase in open employment positions, reaching 11.3 million, compared to the 9.3 million open jobs recorded in April 2021. The staff turnover rate in the United States has experienced a notable rise, escalating from 42.6% in 2016 to 57.3% in 2020 (Ariella, 2021). In China, a report by the Chinese public sector averaged an annual employee turnover rate of about 19% (Ponomareva, 2019). It is professed that there are extreme difficulties in recruiting and retaining talent among manufacturing enterprises in China (Liu & Zhu, 2020). Hence, further research is required to elucidate the elements linked with employee turnover intention and comprehend what motivates employees to remain at their workplace effectively.

Employee turnover intention, a plan for an employee to leave the organization, is a significant predictor of an employee voluntarily leaving the organization. Turnover intention, which results from an employee's psychological propensity to leave their current career, comprises three factors: willingness to look for other employment, the potential to do so, and unhappiness with their current position (Mobley, Horner, & Hollingsworth, 1978). Some reasons for employee turnover intention include an imbalance between work and personal life, limited opportunities for professional growth and progression, insufficient overall remuneration, leaders who exhibit indifference and fail to inspire an absence of fulfilling tasks, and unrealistic work demands that are not sustainable in the long term (De Smet, Dowling, Hancock, & Schaninger, 2022; Panalyt, 2020). Because employees have varying reasons to either stay or leave an organization, it becomes challenging for employers to determine the optimal combination of reasons that encourage people to keep their jobs within a firm.

Previous studies have documented the significance of internal and external motivations on employee turnover intention (Kuvaas, Buch, Weibel, Dysvik, & Nerstad, 2017; Miao, Rhee, & Jun, 2020); however, the effect of other relevant factors on employee turnover intention has yet to be fully addressed. For instance, emotional intelligence has been shown to influence employees' decisions to leave the workplace (Gara Bach Ouerdian, Mansour, Gaha, & Gattooussi, 2021), but limited studies have addressed this relationship. Understanding emotion and emotional knowledge, accessing and producing feelings when they assist thought, grasping emotion and emotional information, and managing emotions to support emotional and intellectual development are all components of emotional intelligence (Mayer & Salovey, 1997).

It is shown that job demands such as emotional demands, work-home interference, and quality of work life significantly and positively influence employee turnover intention (Chegini, Asghari Jafarabadi, & Rakemam, 2019; Van der Heijden, Peeters, Le Blanc, & van Breukelen, 2018). Due to the fact that demanding situations can have an impact on employees, this could result in low productivity and the need to leave the workplace. Hence, this study will explore employees' emotional intelligence as an antecedent of turnover intention.

Also, problem-solving skills, an important personal attribute for employees, have received limited attention in explaining employee turnover intentions. Problem-solving skills involve creative thinking, which is used in creating solutions to the dynamic problems encountered in the organization. Moreover, Problem-solving drives organizational learning. Good problem solvers understand the origins of problems to find practical solutions, spurring a sense of work meaning that enables employees to remain in the organization. Because of the organic nature of today’s organizations, employees are also responsible for improving their work (Spear & Bowen, 1999).

Knowledge-sharing mechanisms have been demonstrated to influence employee problem-solving skills (Galeazzo & Furlan, 2019). However, knowledge sharing without other forms of motivational and personal abilities
might not resort to employees using their skills or developing skills to solve problems encountered in the workplace. Therefore, this research contributes to the existing literature by examining how external motivation, emotional intelligence, and internal motivation impact staff retention via their problem-solving skills. The phenomenon of turnover encompasses both deliberate and involuntary forms. While deliberate turnover entails an employee who has chosen to leave an organisation by resigning or retiring, involuntary turnover is when a company urges a worker to quit. The focus of this research is restricted to voluntary turnover.

2. LITERATURE REVIEW

Over the past decades, much scholarly debate has been on employee turnover intention. Because of its importance and connections to numerous domains of organizational behavior, it is the focus of many human resource management studies. This section reports specific reviews on employee turnover intention related to the antecedents: external motivation, emotional intelligence, internal motivation, and problem-solving skills.

2.1 Conceptualizing Employee Turnover Intention

The degree of employee desire to leave the organization is known as their turnover intention (Ramlawati, Trisnawati, Yasin, & Kurniawaty, 2021). Worker turnover is the permanent exit of personnel from a business, according to Rahman and Nas (2013). A high turnover rate is a problem for the organization. According to Effendi and Etikariena (2017) research on intrinsic motivation and employee turnover, it typically results in higher recruitment costs, more training requirements, the loss of experienced employees, and ultimately will impact the company's financial performance.

In their work on using machine learning to predict employee turnover, Zhao, Hryniewicki, Cheng, Fu, and Zhu (2019) suggested that workers' resignations are crucial in limiting a firm's sustainability and ability to expand. They contend that because it is impossible to foresee and frequently results in apparent gaps in an organization's trained workforce, employee turnover is one of the most critical issues an organization can face during its lifecycle (Zhao et al., 2019). The social exchange theory embodies voluntary exchange with the expectation of mutual gain. In light of this, firms must design proper recruitment, selection, and retention strategies, implement effective preventative and mitigating measures, and understand the main reasons for employee turnover to succeed in the current uncertain global climate.

2.2 External Motivation

According to the assumptions of social exchange theory, a relationship between two entities develops through cost-benefit analysis. Based on the social exchange theory, employees who are happy with an organization's work environment and culture and think it is superior to its rival would stay with that organization and use their talents and expertise to accomplish their goals there (Ahmed, Khuwaja, Brohi, Othman, & Bin, 2018).

Recent organizations empower employees to take the initiative in their jobs, in which decision-making has been decentralized. When employees are motivated with praise and accolades, including incentives, this could influence their motivation to develop their problem-solving skills through employee creativity (Hon & Lui, 2016). It has been discovered that external motivation significantly influences the ability of employees to solve work-related problems due to their sweeping and incremental creativity (Malik, Choi, & Butt, 2019). Further, the study of Uysal (2019) in a survey of a sample of 334 employees in the Zonguldak Province of Turkey revealed a significant negative relationship between external motivation and employee turnover intention.

Since the desired action is frequently not intrinsically satisfying or enjoyable, extrinsic motivation relies on external variables to motivate behavior; as a result, material rewards are offered. Accordingly, there is a significant role in the relationship between external incentives and the desire to leave an organization (Chang, Yeh, Lai, & Yang, 2021). According to research by Schuck and Rabe-Hemp (2018), there is a significant positive correlation...
between higher pay and lower levels of both voluntary and involuntary turnover. The confluence of increased financial incentives and enrollment in a well-defined retirement program was shown to be associated with voluntary separation but not with involuntary dismissal. Drawing from the aforementioned postulation, one might posit the hypothesis that:

- $H_1$: External Motivation positively influences problem-solving skills.
- $H_2$: External Motivation negatively influences employee turnover intention.

2.3. Emotional Intelligence

Numerous studies have demonstrated the significance of emotions in various aspects of our lives. Additionally, studies on emotional intelligence have created significant research avenues and opposing points of view, indicating a growing interest in this field. Accordingly, several authors (e.g., Burcea and Sabie (2020)) have contended that emotional intelligence is crucial to thriving in organization. The creative relationship between the emotions of fear, pain, and desire is known as emotional intelligence (Chopra & Kanji, 2010). Drigas and Papoutsi (2018) defined emotional intelligence as the ability to recognize, comprehend, and use emotions in a variety of contexts, including communication, empathy, problem-solving, and conflict resolution. According to a number of authors, including Drozdowski (2016) and Hendrawijaya, Gumanti, Sasongko, and Puspitaningtyas (2018), emotional intelligence has evolved into a crucial business skill that employees must master for organizational success.

As a result, managers with high levels of emotional intelligence are regarded as more organized, competitive, and capable of using emotions to resolve issues and enhance decision-making processes (Rafiq, Wu, Chin, & Nasir, 2019). Employees could channel such emotional intelligence to render solutions to their everyday work activities. A previous study showed that emotional intelligence significantly influenced tour guides' problem-solving skills (Gültekin & Icigen, 2019). This generates a sense of enthusiasm among employees, enhancing the connection between managers and workers (Wang, Xu, Zhang, & Li, 2020). Drawing from the findings of Sandhya and Sulbhey (2021) employees in the IT industry, this positive interaction between managers and employees that produces a sense of enthusiasm has been shown to influence employee's intentions to leave their organization. A study found that employees' emotional intelligence in the hospitality industry improves working life and minimizes the desire to quit and organizational deviance (Demir, 2011). Based on these arguments, we propose the following two hypotheses:

- $H_3$: Emotional intelligence positively influences problem-solving skills.
- $H_4$: Emotional intelligence negatively influences employee turnover intention.

2.4. Internal Motivation

An individual's desire to learn and work is referred to as internal motivation (Aizza Anwar, Shakeel, & Hassan, 2018). Intrinsic motivation, according to Burton (2012), is the ability to drive behaviour without external rewards by drawing motivation from the activity or behavior. It takes a self-driven employee to figure out ways to improve their work and solve work-related problems through creativity (Malik et al., 2019).

The study by Uysal (2019), in a survey of 334 employees in the Zonguldak Province of Turkey, revealed a significant negative relationship between internal motivation and employee turnover intention. Employees who are intrinsically motivated are less likely to consider leaving their jobs. According to Jayasekara and Weerasinghe (2018) research, there is a significant negative relationship between internal motivation and turnover intention. They also discovered that internal motivation's direct influence on turnover intention was significant. Based on the arguments presented in this section, the following hypotheses are formulated:

- $H_5$: Internal Motivation positively influences problem-solving skills.
- $H_6$: Internal Motivation negatively influences employee turnover intention.
2.5. Problem-Solving Skills

Dwesini (2019) critical literature review opined that developing their employees' skills, including problem-solving skills, is a strategy organizations could use to reduce employee turnover in the hospitality industry. It has been discovered that hotel employees with coping strategies will have less stress at work, reducing their intention to leave the organization (Huang, van der Veen, & Song, 2018). Moreover, when employees are provided with externally motivating rewards, a work environment, and a job that spurs internal motivation, they tend to be more empowered to apply their problem-solving skills to address complex organizational issues. This creates a challenging work environment that improves employees' enthusiasm and desire to flourish in a particular organization. This desire to remain in an organization has an influence on employee turnover intentions.

Emotional intelligence can boost employee commitment in a competitive and fast-changing business environment (Stoyanova-Bozhkova, Paskova, & Buhalis, 2022). Business and management scholars have widely acknowledged the impact of employees' emotional intelligence on their commitment to their organizations, but studies have not given this issue a top priority when looking at the context of higher vocational graduates in China.

The study by Leon and Tănătescu (2018) in the Romanian Banking industry showed that employees with high emotional intelligence have less stress at work due to their ability to comprehend and regulate their own and others' emotions. Ideally, this high emotional intelligence would elicit strategic use of their emotions constructively, thus improving their problem-solving skills and their potential to grow their career in the long term within the same organization. Based on the arguments advanced in this section, the following hypotheses are assumed:

H4: Problem-solving skills negatively influence employee turnover intention.

H5a: Problem-solving skills mediate the relationship between external motivation and employee turnover intention.

H5b: Problem-solving skills mediate the relationship between emotional intelligence and employee turnover intention.

H5c: Problem-solving skills mediate the relationship between internal motivation and employee turnover intention.

2.6. Conceptual Framework and Research Hypotheses

The main idea behind this study is shown in Figure 1. It looks at how three separate factors—external motivation, emotional intelligence, and internal motivation—along with one meditating factor—problem-solving skills—affect an employee's decision to leave their job (the dependent variable). The relationships that exist between these variables are specified in the hypotheses formulated.

![Figure 1. Conceptual framework.](image-url)
3. METHODOLOGY

3.1. Participants and Procedure

This study has tested the mediating influence of problem-solving skills between external motivation, emotional intelligence, and internal motivation on Employee turnover Intention in various sectors. A cross-sectional survey was undertaken in Shandong Province, China, to gather data from vocational graduates who graduated in 2017, 2018, and 2019 and were employed at the time of data collection. Purposive sampling was applied to recover 101 valid questionnaires. The data were gathered over a period spanning from January 2020 to April 2020. These respondents were selected because they are vocational graduates who have learned specific skills pertinent to the success of their organization.

The 101 useful responses retrieved in this study were considered adequate after a power analysis. G*Power software (version 3.1.9) was used to calculate the sample size by conducting a priori power analyses (Faul, Erdfelder, Lang, & Buchner, 2007). The software was given the effect size ($f^2 = 0.150$), the desired statistical power ($1 - \beta = 0.850$), the total number of predictors (four in this study), and the significance level ($\alpha = 0.050$). It was then found that 101 samples were the best number for a regression-based statistical analysis. The result is shown in Figure 2.

![Figure 2. Calculation of sample size using G* power.](image)

According to the data shown in Table 1, it can be observed that out of the total 101 higher vocational graduates, six individuals were 21 years old. Additionally, 41 graduates were 22 years old, 29 were 23 years old, 17 were 24 years old, and eight were 25 years old.
According to the data presented in Table 2, an analysis of the job status was conducted for the 101 participants who had completed higher vocational education and participated in this study. 13 people work in institutions such as schools and hospitals. Four respondents worked in government departments, 47 were in private firms, and 37 were in other firms. The percentages are 12.9%, 4%, 46.5%, and 36.6%, individually.

Based on Table 3, it is shown that the respondents' levels of external motivation, emotional intelligence, internal motivation, and problem-solving skills are all very high, with emotional intelligence being the highest among the constructs. Further, their turnover intention is depicted to be somewhat low.

3.2. Measurements

This cross-sectional study uses a deductive approach with a positivist philosophy and a causal research design. This study employs partial least squares structural equation modeling (PLS-SEM) to develop a model of the factors influencing vocational graduates' intention to leave their jobs. It investigates the effect of external motivation, emotional intelligence, internal motivation, and problem-solving skills on turnover intention.

The data for the independent, mediating, and dependent variables were gathered utilizing a five-point Likert scale. All of the scales were adapted from previously used measures. The emotional intelligence and problem-solving skills items were adapted from Dacre Pool, Qualter, and Sewell (2014). Sample items for emotional intelligence are "I am able to adapt easily to new situation." "I have good oral communication skills," and "I am good at working out what other people are feeling." While Sample items for problem-solving skills are "I am satisfied with my level of numeracy," "I am good at solving problems," and "I am a confident user of information and communication technologies (ICT)."

Further, the external and internal motivation items were adapted using the Multidimensional Work Motivation Scale by Gagné et al. (2015). The examples of items for external motivations are "Because others will respect me more (e.g., supervisor, colleagues, family, clients, etc.)"; "Because others will reward me financially only if I put enough effort into my job (e.g., employer, supervisor, etc.)"; and "Because I risk losing my job if I don't put
enough effort into it." For internal motivations, examples of items are "Because I make me feel proud of myself."; "Because otherwise I will feel bad about myself."; and "Because putting effort into this job aligns with my personal values."

Lastly, turnover intention was measured using the turnover intention scale by Dwivedi (2015). Examples of turnover intention items are "I intend to ask people about new job opportunities."; "I intend to search for a position with another employer."; and "I occasionally think about leaving this organization."

3.3. Data Evaluation

Statistical Package for the Social Sciences (SPSS) is used to analyze statistical data (IBM SPSS Statistics, 2023). The partial least squares modeling technique is used in SmartPLS, a program with a graphical user interface for variance-based structural equation modeling (SmartPLS, 2023). This study implemented the research methodology using SPSS 25 and Smart PLS 3. Following the establishment of the measurement model, a study of the structural model based on established processes was conducted (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017).

4. RESULTS

4.1. Measurement Model: Reliability and Validity

Following convergent validity, discriminant validity was employed to examine the model. To check for convergent validity, Hair et al. (2017) say to use factor loading, average variance extracted (AVE), and composite reliability (CR).

As indicated in Table 4, most factor loadings were more than 0.7, except WMEM5, which is 0.679, while all AVE values were more than 0.5 and all the CR were above 0.7. In addition, factor loadings between 0.4 and 0.7 are acceptable so long as the CR and AVE are appropriate (Hair et al., 2017). Hence, convergent validity was confirmed.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Factor loading</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional intelligence</td>
<td>EAEISM1</td>
<td>0.802</td>
<td>0.736</td>
<td>0.933</td>
</tr>
<tr>
<td></td>
<td>EAEISM2</td>
<td>0.847</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EAEISM3</td>
<td>0.901</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EAEISM4</td>
<td>0.888</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EAEISM5</td>
<td>0.847</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving skills</td>
<td>EAPSS1</td>
<td>0.888</td>
<td>0.803</td>
<td>0.924</td>
</tr>
<tr>
<td></td>
<td>EAPSS2</td>
<td>0.934</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EAPSS3</td>
<td>0.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnover intention</td>
<td>TI1</td>
<td>0.871</td>
<td>0.660</td>
<td>0.920</td>
</tr>
<tr>
<td></td>
<td>TI2</td>
<td>0.839</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TI3</td>
<td>0.775</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TI4</td>
<td>0.874</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TI5</td>
<td>0.790</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TI6</td>
<td>0.714</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External motivation</td>
<td>WMEM1</td>
<td>0.876</td>
<td>0.658</td>
<td>0.905</td>
</tr>
<tr>
<td></td>
<td>WMEM2</td>
<td>0.874</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WMEM3</td>
<td>0.785</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WMEM4</td>
<td>0.825</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WMEM5</td>
<td>0.679</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal motivation</td>
<td>WMIM1</td>
<td>0.903</td>
<td>0.701</td>
<td>0.921</td>
</tr>
<tr>
<td></td>
<td>WMIM2</td>
<td>0.866</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WMIM3</td>
<td>0.858</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WMIM4</td>
<td>0.810</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WMIM5</td>
<td>0.737</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The subsequent step entails carrying out the discriminant validity test that Gholami, Sulaiman, Ramayah, and Molla (2013). Discriminant validity is achieved when a given construct is conceptually separate from another
construct and measures the extent to which the indicators used exclusively represent that particular construct. It is important to do a full discriminant validity test to see how statistically different and separate the variables being looked at are from each other (Hair, Risher, Sarstedt, & Ringle, 2019).

This study used the Heterotrait–Monotrait ratio of correlations (HTMT) ratio at this stage to assess discriminating validity, as Henseler, Ringle, and Sarstedt (2015) described. The HTMT criterion measures the average correlations of the indicators across constructs. According to Franke and Sarstedt (2019) and Henseler et al. (2015), a discriminant validity problem can be inferred when the HTMT value exceeds 0.85 or 0.9. As seen in Table 5, the HTMT criteria fall below the specified threshold of 0.9, indicating the presence of discriminant validity.

<table>
<thead>
<tr>
<th>Table 5. Heterotrait–Monotrait ratio of correlations (HTMT).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructs</td>
</tr>
<tr>
<td>External motivation</td>
</tr>
<tr>
<td>Internal motivation</td>
</tr>
<tr>
<td>Problem-solving skills</td>
</tr>
<tr>
<td>Turnover intention</td>
</tr>
</tbody>
</table>

4.2. Structural Model

It is crucial to ensure the structural model's lateral collinearity is correct before starting the hypothesis testing. The variance inflation factor (VIF) used to measure collinearity, according to Diamantopoulos and Siguaw (2006), must be less than 3.30. As shown in Table 6, this demonstrates that there are no VIF values above the suggested cut-off point by Diamantopoulos and Siguaw (2006), demonstrating that collinearity is not a problem in this investigation. To assess the hypothesized interactions, we examined the structural model’s results for R², effect size (f²), and predictive relevance (Hair Jr, Hult, Ringle, & Sarstedt, 2017). The output of the bootstrapping process (with a sample of 5000) is depicted in Figure 3. Contrary to the hypothesis, the data did not support the significant effect of external motivation on employees' problem-solving skills (Beta: 0.046; T-stat: 0.506; P > 0.05). However, in tandem with the hypothesis, external motivation was significantly related to employee turnover intention (Beta: -0.565; T-stat: 6.761; P < 0.001). Further, the data indicated that emotional intelligence is significantly related to problem-solving skills (Beta: 0.629; T-stat: 6.525; P < 0.001); nevertheless, there was no influence between emotional intelligence and employee turnover intention (Beta: 0.157; T-stat: 1.619; P > 0.05).

Further, internal motivation significantly influences problem-solving skills (Beta: -0.214; T-stat: 2.055; P < 0.05). However, there is no significant influence between internal motivation and employee turnover intention (Beta: -0.148; T-stat: 1.189; P > 0.05). The data analysis showed that problem-solving skills were significantly related to employee turnover intention (Beta: -0.228; T-stat: 1.979; P < 0.05). As a result, our findings provide evidence in favor of hypotheses H1b, H2a, H3a, and H4, whereas hypotheses H1a, H2b, and H3b did not get support.

<table>
<thead>
<tr>
<th>Table 6. Direct hypotheses result.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H’theses</strong></td>
</tr>
<tr>
<td>H1a</td>
</tr>
<tr>
<td>H1b</td>
</tr>
<tr>
<td>H2a</td>
</tr>
<tr>
<td>H2b</td>
</tr>
<tr>
<td>H3a</td>
</tr>
<tr>
<td>H3b</td>
</tr>
<tr>
<td>H4</td>
</tr>
</tbody>
</table>

**Note:** WMEM = External motivation; EAEISM = Emotional Intelligence; WMIM = Internal motivation; EAPSS = Problem solving skills; TI = Turnover intention.
We created a fully mediated model and conducted a mediation study in accordance with the standards established by Preacher and Hayes (2008) and Hair Jr et al. (2017). We also bootstrapped the indirect impact. Table 7 shows that problem-solving skills do not mediate the relationship between external motivation and employee turnover intention (Beta: -0.010; T-stat: 0.435; p> 0.05). Next, the data analysis indicates that problem-solving skills significantly mediate the relationship between emotional intelligence and turnover intention (Beta: -0.143; T-stat: 2.011; p< 0.05). On the contrary, the finding shows that problem-solving skills do not significantly mediate the link between internal motivation and turnover intention (Beta: -0.049; T-stat: 1.276; p> 0.05). Consequently, for the mediation analysis, we found support for only H5b but not for H5a and H5c.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Description</th>
<th>Beta</th>
<th>SE</th>
<th>T-stat</th>
<th>P values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H5a</td>
<td>WMEM -&gt; EAPSS -&gt; TI</td>
<td>-0.010</td>
<td>0.024</td>
<td>0.435</td>
<td>0.664</td>
<td>NS</td>
</tr>
<tr>
<td>H5b</td>
<td>EAEISM -&gt; EAPSS -&gt; TI</td>
<td>-0.143</td>
<td>0.071</td>
<td>2.011</td>
<td>0.044</td>
<td>S</td>
</tr>
<tr>
<td>H5c</td>
<td>WMIM -&gt; EAPSS -&gt; TI</td>
<td>-0.049</td>
<td>0.038</td>
<td>1.276</td>
<td>0.202</td>
<td>NS</td>
</tr>
</tbody>
</table>

Note: WMEM = External motivation; EAEISM = Emotional Intelligence; WMIM = Internal motivation; EAPSS = Problem-solving skills; TI = Turnover intention.

The R2 value for this study is 0.516 for turnover intention, which indicates that external motivation, emotional intelligence, internal motivation, and problem-solving skills explain 51.6% of the variance in turnover intention. Further, the R2 value for problem-solving skills is 0.634, indicating that external motivation, emotional intelligence, and internal motivation can explain 63.4% of the variance in problem-solving skills.

Cohen (1992) suggests that 0.02, 0.15, and 0.35 represent minute, medium, and high effects when evaluating the effect size (f2). For the endogenous construct, turnover intention, the results indicate a small effect on problem-solving skills (0.039), emotional intelligence (0.020), and internal motivation (0.021). In comparison, the large effect size of external motivation is the highest (0.422).
Regarding the endogenous construct of problem-solving skills, the findings indicate that external motivation has no effect (0.004), while internal motivation is shown to have a small effect (0.061); moreover, emotional intelligence has a large effect size (0.713).

This study predicted the accuracy using $Q^2$ by Geisser (1974) to evaluate the predicted precision and applicability of the research model. A blindfolding test was undertaken. Previous research indicates that a target construct has predictive accuracy and significance if the $Q^2$ value exceeds 0 (Fornell & Cha, 1994; Hair Jr et al., 2017). The $Q^2$ values in this investigation indicate that the prediction efficacy and applicability of the model are sufficient, which is in line with Table 8.

### Table 8. Coefficient of determination ($R^2$) and magnitude of effect ($f^2$).

<table>
<thead>
<tr>
<th>Construct</th>
<th>$R^2$</th>
<th>$Q^2$</th>
<th>$f^2$</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover intention</td>
<td>0.516</td>
<td>0.324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving skills</td>
<td>0.634</td>
<td>0.496</td>
<td>0.039 $^a$</td>
<td>Small</td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>0.020 $^a$</td>
<td>0.713 $^b$</td>
<td></td>
<td>Small, large</td>
</tr>
<tr>
<td>External motivation</td>
<td>0.422 $^a$</td>
<td>0.004 $^b$</td>
<td></td>
<td>Large, nil</td>
</tr>
<tr>
<td>Internal motivation</td>
<td>0.021 $^a$</td>
<td>0.061 $^b$</td>
<td></td>
<td>Small, small</td>
</tr>
</tbody>
</table>

Note: $a$ = Turnover intention, $b$ = Problem solving skills.

Instead of the blindfolding methodology, PLS Predict uses a holdout sample to provide case-level predictions for variable measures. The PLS Predict method incorporates a 10-fold procedure to assess predictive relevance. Based on the main idea explained by Shmueli et al. (2019) about how well a model can predict, the results of our PLS Predict root mean squared error (RMSE) analysis, shown in Table 9, show that our model is very good at predicting because there are fewer mistakes in the predictions.

### Table 9. PLS predict results.

<table>
<thead>
<tr>
<th>PLS</th>
<th>PLS (RMSE)</th>
<th>LM (RMSE)</th>
<th>PLS (RMSE) – LM(RMSE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAPSS1</td>
<td>0.598</td>
<td>0.649</td>
<td>-0.051</td>
</tr>
<tr>
<td>EAPSS2</td>
<td>0.508</td>
<td>0.567</td>
<td>-0.059</td>
</tr>
<tr>
<td>EAPSS3</td>
<td>0.476</td>
<td>0.538</td>
<td>-0.062</td>
</tr>
<tr>
<td>T11</td>
<td>0.940</td>
<td>1.018</td>
<td>-0.078</td>
</tr>
<tr>
<td>T12</td>
<td>0.914</td>
<td>1.023</td>
<td>-0.109</td>
</tr>
<tr>
<td>T13</td>
<td>0.792</td>
<td>0.884</td>
<td>-0.092</td>
</tr>
<tr>
<td>T14</td>
<td>0.932</td>
<td>0.972</td>
<td>-0.04</td>
</tr>
<tr>
<td>T15</td>
<td>0.972</td>
<td>1.033</td>
<td>-0.061</td>
</tr>
<tr>
<td>T16</td>
<td>0.920</td>
<td>1.059</td>
<td>-0.139</td>
</tr>
</tbody>
</table>

5. DISCUSSION

Our primary research objective was to investigate the associations between external motivation, emotional intelligence, and internal motivation and employee turnover intention by mediating problem-solving skills. The findings of this quantitative study show that external motivation does not influence problem-solving skills, which contradicts previous findings (Malik et al., 2019). The possible reason could be limited external motivations, such as the absence of transformational leadership and incentives to motivate employees to develop their problem-solving skills. It is stated that the lack of transformational leadership inhibits employees’ problem-solving skills because employees do not feel the psychological safety to harness their problem-solving skills productively (Carmeli, Sheaffer, Binyamin, Reiter-Palmon, & Shimoni, 2014).

Next, external motivation is reported to significantly and negatively influence turnover intention. This discovery aligns with prior research (Chang et al., 2021; Schuck & Rabe-Hemp, 2018). It shows that when employees are satisfied with their jobs because of proper compensation and supervisory support, they will have less intention to leave the organization. Next, emotional intelligence is shown to have a significant relationship with problem-solving skills. The finding is aligned with previous studies (Gültekin & Icigen, 2019; Troth, Rafferty, &
The ability of employees to express themselves and control their emotions will lead to fewer conflicts and more focus on how to harness their skills for solving work-related problems.

Next, emotional intelligence is reported not to influence turnover intention significantly, and the finding contradicts previous studies (Demir, 2011; Sandiya & Sulheyy, 2021). It is possible that the reason for the workers’ decision to leave the company is unrelated to their emotional intelligence, which involves their ability to recognize, understand, and express emotions and their capacity to think clearly and comprehend emotional knowledge. This could be because other things, like external and internal motivations, could play a big role in their choice to stay or leave the organization. The subsequent demonstration of the impact of intrinsic motivation on problem-solving abilities is substantial. This observation is consistent with a past research study that suggested that individuals with intrinsic motivation, characterized by prioritizing personal objectives, are more likely to actively cultivate and apply their problem-solving abilities within the professional setting (Malik et al., 2019).

However, internal motivation is shown not to significantly influence turnover intention. This finding is not aligned with previous studies (Chang et al., 2021; Kim, 2018). This outcome in the study might be a result of employees' external motivation overriding their internal motivation. It is suggested that in the presence of external motivation, employees' intrinsic motivation plays little importance in determining their turnover intention. Recently, employees want a work-life balance, supervisory support, and career development (Kaur & Randhawa, 2021; Yulsiza et al., 2021). Hence, even though intrinsic motivation plays a role, it is not the primary reason for intending to leave the organization.

Next, problem-solving skills are shown to significantly and negatively influence turnover intention. This is aligned with a previous study (Dwesini, 2019). Since the respondents in this study are vocational employees, it is apparent that their problem-solving skills will influence their turnover intention. When employees can solve problems relating to their jobs by being creative, they will be less stressed, reducing their intention to leave the workplace (Huang et al., 2018). Next, the findings of this study show that problem-solving skills significantly mediate the link between emotional intelligence and employees’ turnover intention. However, problem-solving skills did not significantly mediate the link between external and internal motivation and turnover intention. This finding is aligned with a previous study that narrated that those employees with coping strategies, which could be identical to emotional intelligence, would reduce work-related stress among employees because they could control their emotions and those around them. Reduced stress makes employees feel satisfied with their jobs and intend to remain at the workplace (Huang et al., 2018).

Nevertheless, the insignificant mediating relationships show that employee problem-solving skills are not borne out of external and internal motivations and would not determine if employees would remain at their workplace. Since developing problem-solving skills is an intellectual, proactive venture by employees, extrinsic motivations such as monetary rewards would not necessarily push employees to develop such skills as long as they could achieve the minimum workplace performance. Consequently, it does not determine their turnover intention.

Interestingly, even the employees’ internal motivation does not give the reason for employees to develop or harness their problem-solving skills at the workplace and, in turn, does not influence turnover intentions. Organizations must develop employees’ intrinsic motivation to allow them to develop and harness their problem-solving skills at the workplace.

5.1. Theoretical Implication

The primary objective of this study is to enhance our comprehension of the motivating elements that contribute to employees’ desire to leave their jobs in China. The findings of this study provide a distinct and valuable contribution to existing research by elucidating many pathways of commitment that are influenced by external motivation, emotional intelligence, and internal motivation. These factors, in turn, impact employee turnover intention through their effect on problem-solving abilities.
This study's main contribution is identifying emotional intelligence and problem-solving skills that influence employee turnover intention in vocational careers. This research expands the existing knowledge on social exchange theory by showing that personal attributes such as emotional intelligence and problem-solving skills play a significant role in employees' decisions to remain in the workplace. Also, external motivations overshadow intrinsic motivation when an employee decides to leave the workplace. This gives credence to the social exchange theory as regards organizations offering to employees to get back employees' commitment to the organization.

5.2. Practical Implication

Employees are the most important assets to the survival of firms; hence, the top management needs to find ways to keep them in the organization. This study shows that top management needs to formulate mechanisms to ignite the intrinsic motivation of employees while blending it with extrinsic motivations such as compensation and benefits. In order to encourage long-lasting intrinsic motivation, organizations should develop extrinsic motivation in employees, which can be channeled to increase their intrinsic motivation. The analysis of variance suggests that nurses with high intrinsic motivation are happier with extrinsic rewards (Dave, Dotson, Cazier, Chawla, & Badgett, 2011). Passionate workers are less inclined to quit their jobs; hence, these efforts will spirally affect employees' motivation to remain in the organization. Further, top management can engage employees in exercises that boost their emotional intelligence, which is an effective anti-stress attribute. Some ways of boosting emotional intelligence could include assertive communication, responding and not reacting to confrontation, actively listening, having a positive attitude, self-awareness, empathy, accepting feedback, and being friendly and approachable. Furthermore, problem-solving skills can be developed and enhanced through empowerment, learning opportunities, organizational culture, feedback from supervisors and top leadership, clear expectations, and verbal praise for good performance. Based on these suggestions, employees can be motivated to offer solutions to their workplace problems.

6. CONCLUSIONS, LIMITATIONS, AND FUTURE DIRECTIONS

The variables of worker turnover intention in China that are examined in this study are problem-solving abilities, emotional intelligence, internal motivation, and external motivation. This study highlights the value of emotional intelligence and problem-solving abilities, particularly for workers in China.

Like every research project, this study has some limitations. We collected only 101 responses; hence, future studies should endeavor to collect more responses. Further, this is a cross-sectional study; future studies should be longitudinal to understand employee turnover intention predictors over time. This is because employees might change their motivation based on different stages of their lives. Since personal attributes play a significant role in employees' decisions, future studies should examine employees' proactive personalities as a moderating variable between external and intrinsic motivation and turnover intention. Lastly, this study was conducted in China, a high-power distance society based on Hofstede's categorization. Further research should be undertaken in many nations across Africa, Asia, North America, South America, Europe, and Oceania to expand the scope of future studies.

Funding: This study received no specific financial support.
Institutional Review Board Statement: The Ethical Committee of the Shandong Vocational College of Science and Technology, China has granted approval for this study.
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.
Data Availability Statement: Upon a reasonable request, the supporting data of this study can be provided by the corresponding author.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.
REFERENCES


SmartPLS. (2023). About the SmartPLS. Retrieved from https://www.smartpls.com/


**Views and opinions expressed in this article are the views and opinions of the author(s), Asian Development Policy Review shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.**