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**RESEARCH ARTICLE**

**Determinants of Employee Retention in Pharmaceutical Companies: Case of Saudi Arabia**

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**ABSTRACT**

Saudi Arabia's fast-growing pharmaceutical market aims to retain employees to increase organizational effectiveness and reduce attrition costs. This study aimed to investigate employee retention determinants in Saudi pharmaceutical companies. In total, 325 responses were collected and analysed. Quantitative research was conducted using an electronic survey sent to Saudi pharmaceutical employees through different social media platforms. Different variables were collected from the survey tool using several question formats. Descriptive and inferential statistics were used for data analysis. Six determinants were identified to have a positive correlation with employee retention: salary/benefits, job/work conditions, work relationships, company culture, motivation, and leadership within the company. The motivation was a key factor influencing employee retention. Nearly 52.1% to 91.1% of employee retention was explained by the aforementioned determinants. Job/work conditions and motivation in the company were significant positive predictors of employee retention. Our study showed a significant relationship between salary/employee benefits, motivation, work conditions, organizational culture, leadership support, and employee retention in pharmaceutical companies in Saudi Arabia. Leaders in Saudi pharmaceutical companies should maintain long-term staff retention to boost organizational performance and minimise the cost of employee attrition.

**KEYWORDS**

Determinants, Employee Retention, Saudi, Pharmaceutical Companies

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**1. Introduction**

The pharmaceutical industry is recognised as one of the most powerful industries worldwide. The global pharmaceutical market has expanded tremendously in recent years. The global pharmaceutical market was estimated to be worth approximately 1.27 trillion dollars by the end of 2020 (Mikulic, 2021). The Saudi pharmaceutical market is considered one of the fastest-growing markets today, with more than 40 registered pharmaceutical factories covering 36% of the local market's need for medicines. The Saudi pharmaceutical industry employs around 6896 workers, which is 28.3% of the total number of pharmacists (AlRuthia *et al.*, 2018). The pharmaceutical industry is regulated jointly by the government and private sectors, primarily by the Saudi Food and Drug Authority (SFDA) in conjunction with the Ministry of Health (MOH) (Tawfik *et al.*, 2021). The extensive investment in research and development is coupled with a heavy investment in human resources in the pharmaceutical industry. Human resources are critical in the pharmaceutical sector to develop knowledge and lead the innovation process. Consequently, on the knowledge creation front, the industry's presence leads to information diffusion in the workforce, with people working for a pharmaceutical business receiving professional training and being up-to-date on the latest technologies and processes (Babapour, Gholipourb & Mehralian, 2018).

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Employee retention is a critical issue and challenge for all businesses. Pharmaceutical companies strive to use systematic employee retention programs to build and cultivate an environment that encourages current employees to remain employed by implementing policies and procedures that address their various demands. The efficient running of an organisation is jeopardised by employee turnover (Hejase *et al.*, 2016).

However, the current study attempts to make a significant contribution to the empirical literature on human resource management by examining the determinants of employee retention in the pharmaceutical sector. Also, it attempts to identify predictors of employee retention in this sector in Saudi Arabia.

### **1.1 Research Questions**

The research questions for this study are:

- What are the determinants of employee retention in Saudi pharmaceutical companies?
- What is the relationship between salary/employee benefits, job/working conditions, work relationships, organizational culture, motivation in the company, leadership within the company, and employee retention in Saudi pharmaceutical companies?

### **1.2 Research Objectives**

The study's primary objective is to identify the determinants of employee retention in Saudi pharmaceutical companies. In line with the primary objective, the study has the following set of sub-objectives to ensure a more comprehensive analysis.

- To identify predictors of employee retention.
- To assess the impact of salary and employee benefits on employee retention.
- To examine the relationship between job/work conditions and employee retention.
- To measure the impact of motivation on employee retention in pharmaceutical companies.
- To assess the impact of culture within the company on employee retention.
- To analyse the impact of work relationships and organizational culture on employee retention.
- To investigate the significance of leadership support on employee retention.

## **2. Literature review**

### **2.1 Employee retention**

Employee retention is the practice of encouraging employees to stay with the organisation for as long as feasible or until the project is completed. Pharmaceutical firms attempt to utilise systematic employee retention strategies to establish and cultivate an atmosphere that encourages existing employees to stay. In Lebanon, retention determinants in pharmaceutical businesses have been studied. Nearly 50% of respondents were satisfied with their income and benefits. Only 27% of respondents felt empowered by their company, 68% were involved in decision-making, and 70% were happy with their training opportunities and working hours. The study found that Lebanese pharmaceutical businesses did not retain talent. Hejase *et al.* (2016) recommended that company leaders invest more in their people and provide higher salaries, promotions, leadership support, and empowerment.

Asif and Gul (2021) recently analysed employee retention in the pharmaceutical industry in Karachi, Pakistan. The study showed that salary and rewards were the main retention drivers. Asif and Gul's (2021) findings confirmed Khan *et al.*'s (2012) findings, which showed that salary was the most important factor affecting medical representatives' choice to resign, followed by brand image, career progression, and employer-employee connection (Khan, 2012).

### **2.2 Job Satisfaction**

Job satisfaction is defined as the degree to which individuals like (are satisfied with) or dislike (are dissatisfied with) their jobs (Aziri, 2011). Intrinsic and extrinsic factors determine job satisfaction (Parent-Thirion *et al.*, 2007). Almost 69% of healthcare workers want to leave due to job dissatisfaction and manager motivation (Bonenberger *et al.*, 2014).

In Saudi Arabia, several studies have assessed pharmacists' job satisfaction in different healthcare sectors (Salam *et al.*, 2014; Suleiman, 2015). Unfortunately, limited research has assessed job satisfaction in the Saudi pharmaceutical industry. In Al-Muallem *et al.*'s (2019) study, which included approximately 20% of pharmacists working in pharmaceutical companies, approximately 60% of respondents reported being satisfied with their job: they enjoyed going to work daily, their job provided opportunities to use

their abilities, and they had the freedom to choose any method of doing the job, and they received a sense of accomplishment from their work.

### ***2.3 Motivation in the company***

Internal and external elements that inspire the desire and ability of individuals to be interested and committed to their work, task, position, and subject matter to comply with standards and reach their goals are known as motivation. Employees have various opportunities to improve their performance and potential, which drives their motivation and morale. Motivating people is a sensitive and intentional problem that emerges during the moulding and acquisition of new business knowledge (Vijayabanu, Suppraja, & Sathammai, 2017).

Many studies have shown the critical relationship between job satisfaction and motivation and that this link has a significant influence on productivity, innovation, and overall company success. According to Mabuza and Proches (2014), understanding aspects of the working environment may improve employee motivation and productivity.

### ***2.4 Culture within the company***

Organizational culture has been defined in several ways (Martin, 2006). Schein (2011) proposed a more formal definition of organizational culture: "Organizational culture is a set of shared basic assumptions that a group learned as it solved problems of external adaptation and internal integration, and that has proven to be valid enough to be taught to new members as the correct way to perceive, think, and feel about those problems". Organizational culture contributes to staff recruitment, orientation, and work satisfaction, which encourages employee engagement. In this case, a pharmaceutical company may look for employment candidates who share the same values as the company's culture (Cameron & Quinn, 2011).

Yaoprukchai and Kardkarnklai's (2014) study investigated the organizational culture in pharmaceutical companies in Thailand. The results revealed that a "Clan" culture typified by a family-like workplace, a parent-like interaction between organizational leaders and subordinates, and teamwork-focused values dominated the existing and desired organizational cultures of the investigated pharmaceutical firm.

### ***2.5 Leadership within the company***

Leadership has various definitions; it is a relationship in which one person can influence the behaviour or actions of others. In ordinary discourse, the terms leadership and management are incorrectly used interchangeably. Management is concerned with the development, planning, and control of organizational resources, whereas leadership is concerned with the alignment of people with the intended goals of an organisation's vision (Gwavuya, 2011). Leadership is a process of encouraging and assisting people to actively work towards common goals. Providing direction for an organisation and guiding followers towards the achievement of desired objectives are a successful leader's responsibilities (Voon *et al.*, 2011).

Employees' decisions to remain or leave the company are directly or indirectly influenced by the leadership style (Azeez, 2017). Wakabi (2016) discovered that leadership style and employee retention had a favourable association with the firms he studied. Kroon and Freese (2013) found that leadership plays a crucial role in employee retention; one of the most critical aspects that might impact employee retention in a business is the quality of its leadership.

However, based on the extant review of prior research, it can be said that limited empirical studies have been done with regard to examining the determinants of employee retention in the pharmaceutical sector or even the identifying predictors of employee retention in this sector. Thus, the subsequent hypotheses are proposed:

**H1: Salary/employee benefits have a positive and significant impact on employee retention**

**H2: Job working conditions have a positive and significant impact on employee retention**

**H3: Work relationships have a positive and significant impact on employee retention**

**H4: Culture within the company has a positive and significant impact on employee retention**

**H5: Motivation in the company has a positive and significant impact on employee retention**

**H6: Leadership in the company has a positive and significant impact on employee retention**

### ***2.6 Research framework:***

Based on the above arguments, the conceptual framework below clarifies the influence of salary/employee benefits, job/working conditions, work relationships, organizational culture, motivation in the company, and leadership within the company on employee retention among Saudi pharmaceutical companies. In a research study with well-defined variables, there are two main types of variables, independent and dependent variables. So, this study included these variables. The dependent variable is employee retention among Saudi pharmaceutical companies. Whereas the independent variables of the study are salary/employee benefits, job/working conditions, work relationships, organizational culture, motivation in the company, and leadership within the company. Finally, Figure 1 represents the conceptual framework.

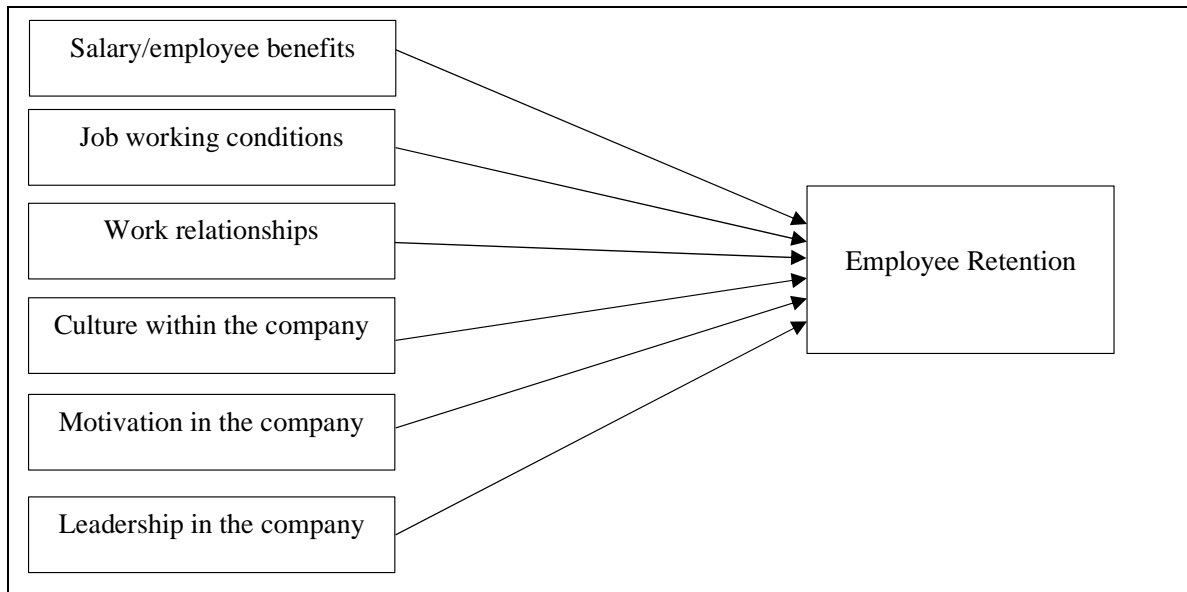


Figure 1: Research Model

### 3. Methodology

#### 3.1 Research Design

A quantitative study was conducted using an electronic survey that was disseminated to employees working in pharmaceutical companies through different social media platforms. The total sample size for this study was 325 participants. Also, the study was conducted in Saudi Arabia within three months, including a short pilot study to validate the survey tool. The survey form was available in English and disseminated using Google Forms. The survey tool was designed to collect different variables by using different styles of questions (open-ended, multiple-choice, and 5-point Likert scale questions).

#### 3.2 Data analysis

All responses were analysed using SPSS and IBM SPSS Statistics 26. The study was conducted using descriptive statistics such as data tables with frequency and percentage distributions. Reliability, correlation, and regression analyses were also conducted. Non-parametric (Spearman's rank) correlation and ordinal logistic regression were used to assess the correlation and regression, respectively. The dependent variable was employee retention (ER), whereas the independent variables included demographic data, salary/employee benefits (SEB), job/working conditions (JWC), work relationships (WR), motivation in the company (MIC), the culture within the company (CWC), and leadership within the company (LWC).

### 4. Results

#### 4.1 Reliability analysis

Cronbach's alpha coefficient was used in this study to measure the consistency of the measurement, as shown in Table 1. According to Table 1, all the variables in this study had an alpha value of 0.619–0.923, which is above Cronbach's value of 0.6. Therefore, the variables in this study were acceptable and highly reliable.

**Table 1. Summary of the Reliability Analysis**

Variables	Number of items	Cronbach's Alpha
Salary/Employee Benefits	5	0.822
Job working condition	5	0.637
Work relationship	5	0.709
Culture within the company	5	0.875
Motivation in the company	3	0.619
Leadership in the company	5	0.923

**4.2 Descriptive analysis of variables**

Table 1 summarises the descriptive analysis of the study variables. Descriptive analysis included the minimum, maximum, mean, and standard deviation of each variable.

**Table 2. Descriptive analysis of the variables in this study**

Variables	Minimum	Maximum	Mean	SD
Employee Retention (ER)	1	4.3	2.646	±0.5652
Salary/Employee Benefits (SEB)	1	5	3.665	±0.7998
Job working conditions (JWC)	1.5	3.5	2.433	±0.3116
Work relationships (WR)	1	2	1.166	±0.2505
Culture within the company (CWC)	1	5	3.926	±0.8447
Motivation in the company (MIC)	1.4	3.8	2.995	±0.4301
Leadership in the company (LIC)	1	5	3.807	±0.9622

**4.2.1 Demographic data**

A total of 325 responses were collected and analysed. Respondents who were in the age ranges of 26–30, 31–40, 41–50, and 50–60 formed 60%, 35.7%, 4%, and 0.3% of the sample, respectively. No respondent was above 60 years old. Most respondents were male (73%) and Saudi (83%). Furthermore, 45.8% hold a Doctor of Pharmacy degree, 40.6% hold a bachelor's degree in Pharmacy, 17.8% hold a Master's degree (MSs), and only 0.6% hold a Doctor of Philosophy (PhD) degree, and 2.2% hold other academic degrees (Table 3).

Most respondents (84.9%) worked in multinational pharmaceutical companies, whereas 15.1% worked in national pharmaceutical companies. More than half of the respondents (57.5%) were working in the sales department, 16.6% were working in the market access/key account department, 6.2% in the marketing department, 6.2% in the medical affairs, 4.6% in the regulatory affairs, 2.2% in the pharmacovigilance, and 6.8% are working in the other departments. The other departments included quality, compliance, warehouses, and training and development (Table 3).

**Table 3. Summary of Demographic data**

		N	Percentage (%)
<b>Gender</b>	Male	238	73.2
	Female	87	26.8
<b>Age</b>	26–30 years	195	60.0
	31–40 years	116	35.7
	41–50 years	13	4.0
	51–60 years	1	0.3
	Above 60 years	0	0
<b>Nationality</b>	Saudi	269	82.8
	Non-Saudi	56	17.2

<b>Education level</b>	Bachelor’s degree in pharmacy (BSs)	132	40.6
	Doctor of Pharmacy (PharmD)	149	45.8
	Master’s degree (MSs)	58	17.8
	Doctor of Philosophy (PhD)	2	0.6
	Other	7	2.2
<b>Type of company</b>	National pharmaceutical company	49	15.1
	Multinational pharmaceutical company	276	84.9
<b>Department</b>	Sales department	187	57.5
	Marketing department	20	6.2
	Market access/Key account	54	16.6
	Medical affairs	20	6.2
	Regulatory affairs	15	4.6
	Compliance department	7	2.2
	Other	22	6.8

#### 4.2.2 Employee Retention

Regarding experience in the current company, 77.2%, 14.5%, 5.2%, and 2.2% of the respondents had 1–5, 6–10, 10–15, and 16–20 years of experience, respectively. Only 0.9% had >20 years of experience (Figure 2). Furthermore, 41%, 32.3%, 16.9%, and 9.8% worked for one, two, three, and four or more companies, respectively (Figure 3). Regarding whether their pay matches their job performance, 59.4% agreed (21.2% strongly agree; 38.2% agree), 17.2% disagreed (3.4% strongly disagree; 13.8% disagree), and 23.4% of respondents were uncertain. Lastly, 61.2% agreed (21.5% strongly agree; 39.7% agree) that their job is rewarding and satisfying, and they enjoy coming to work every day, whereas 17.6% disagreed (6.8% strongly disagree; 10.8% disagree), and 21.2% were uncertain (Figure 4).

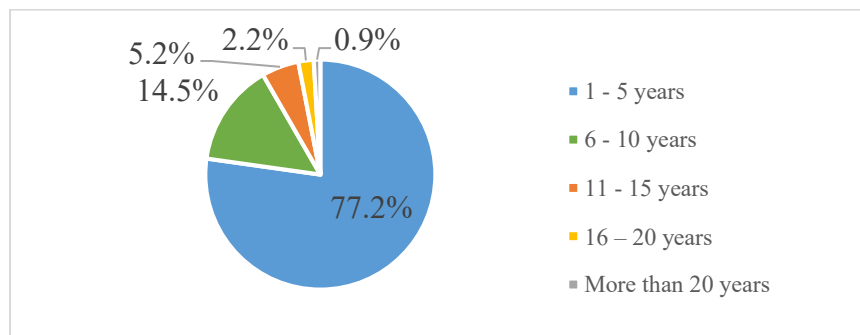


Figure 2. Experience in the current company

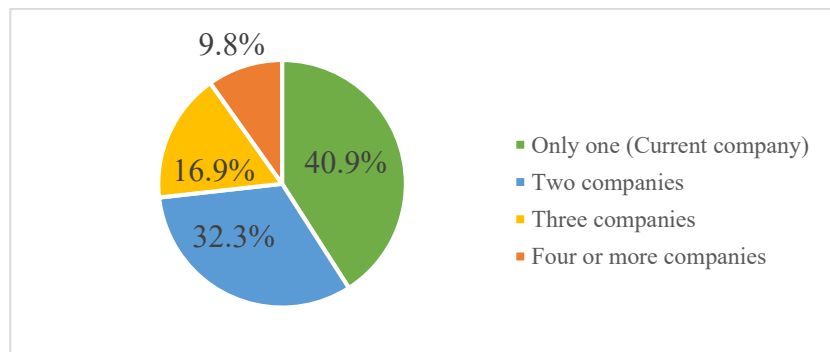


Figure 3. Number of companies where the employees work

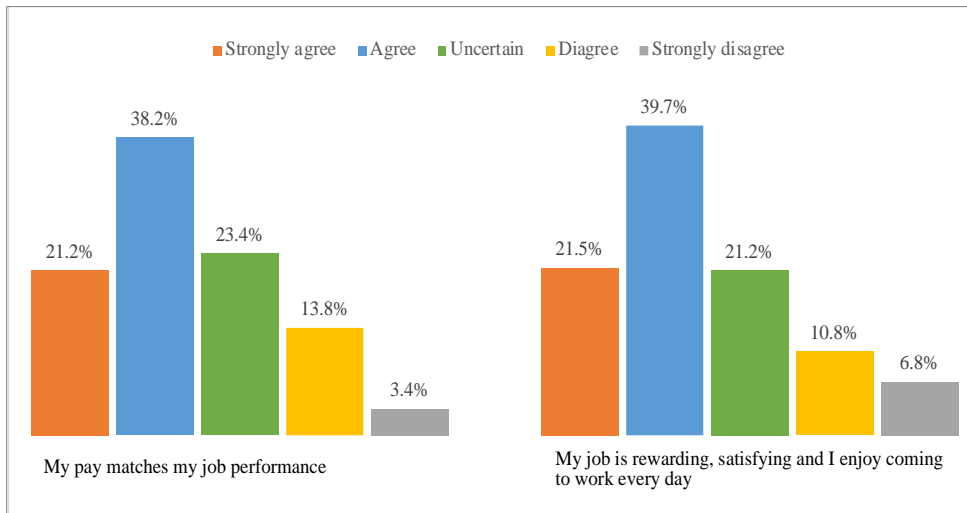


Figure 4. Responses to the questions related to pay, and the pleasure of going to work

**4.2.3 Salary/Employee Benefits**

Our results showed that 64.9% of the respondents agreed that their salary was fair compared to their counterparts in similar jobs in other companies, 17% disagreed, and 18.2% were uncertain. Moreover, 67.4% agreed that their salary was fair compared to their peers within the company, 13.3% disagreed, and 19.4% were uncertain. Regarding benefits, 70.2% agreed that they were satisfied with the company’s employee benefits, 13.9% disagreed, and 15.7% were uncertain. In addition, 62.7% agreed that the salary adjustment granted to them reflects their performance level, 15.1% disagreed, and 21.8% were uncertain. Finally, 59.1% agreed that promotion prospects in the company were good, 16% disagreed, and 24.6% were uncertain (Figure 5).

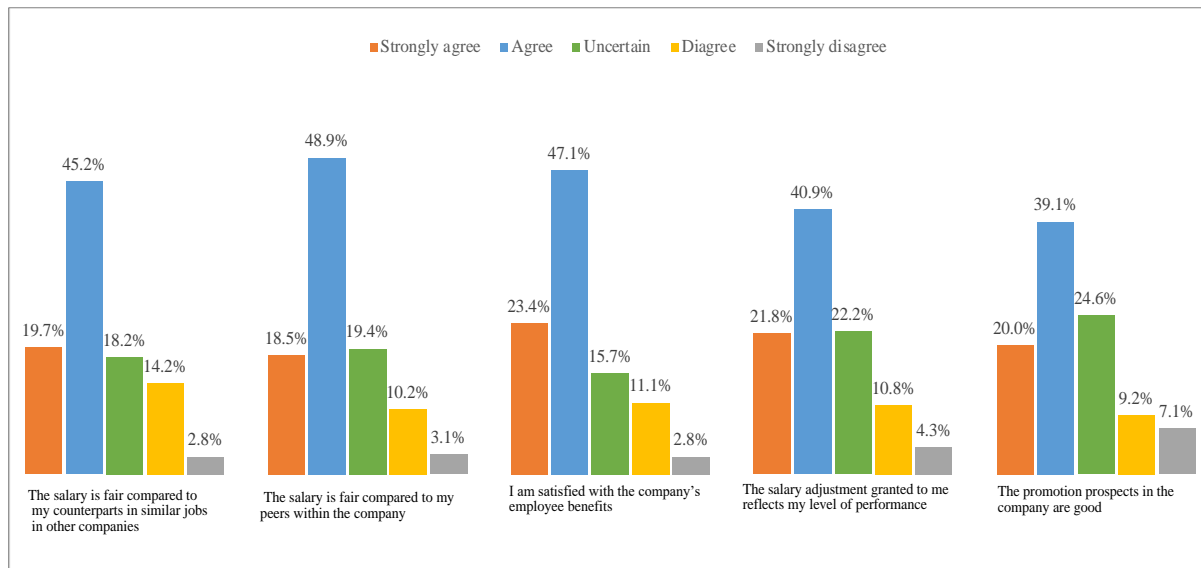


Figure 5. Responses to the questions related to salary/employee benefits

**4.2.4 The Job/Working Condition**

More than half of the respondents (68%) were satisfied with the duties and responsibilities assigned to them, whereas 18.2% were not satisfied, and 13.2% were uncertain. Moreover, approximately 53.5% felt they had job security, 24.6% felt they did not have job security, and 21.5% were uncertain. Most respondents (83.1%) were able to handle the work pressure, whereas only 9.2% were not able to handle the work pressure, and 7.4% were uncertain. Surprisingly, 70.8% of the respondents were satisfied with their working hours, whereas 23.7% were not satisfied, and 5.3% were uncertain. Nearly 64.9% felt involved in the decision-making process, whereas 23.7% felt excluded, and 11.1% were uncertain (Figure 6). Finally, 78.5% scored 7 or above out of 10 on the ranking scale when asked about their overall job satisfaction (Figure 7).

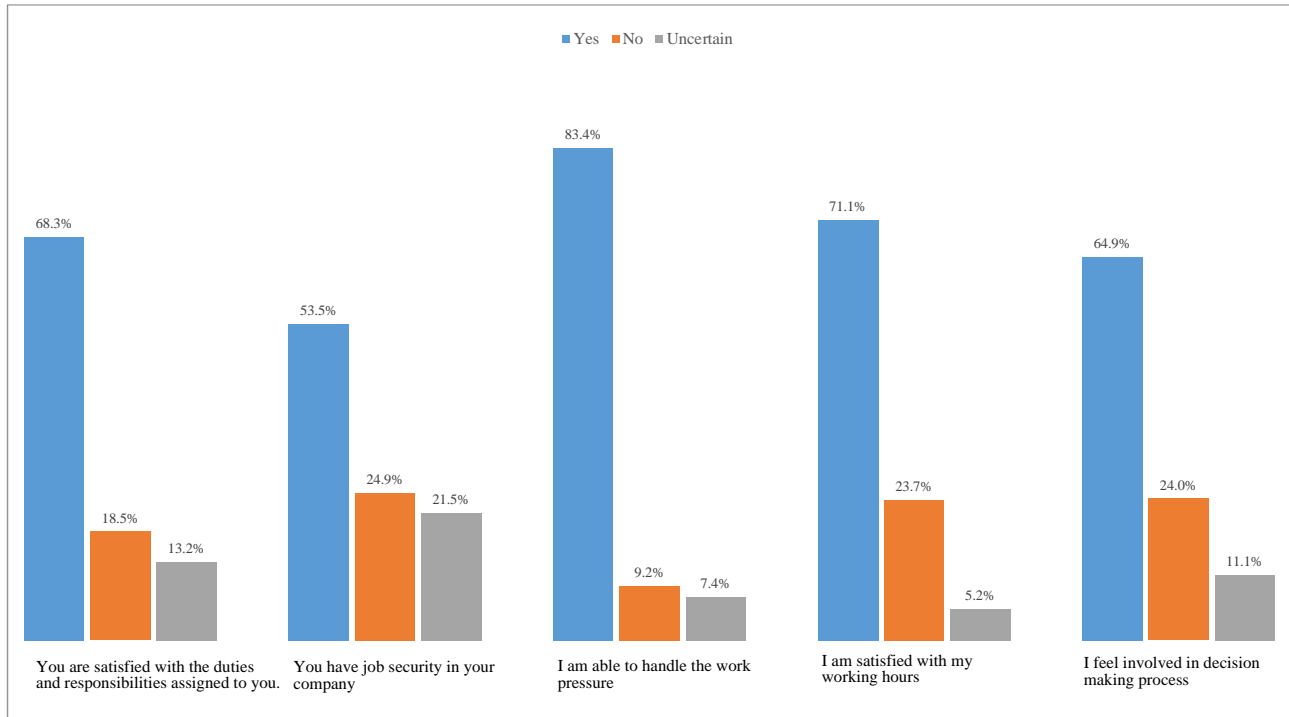


Figure 6. Responses to the questions related to job/working condition

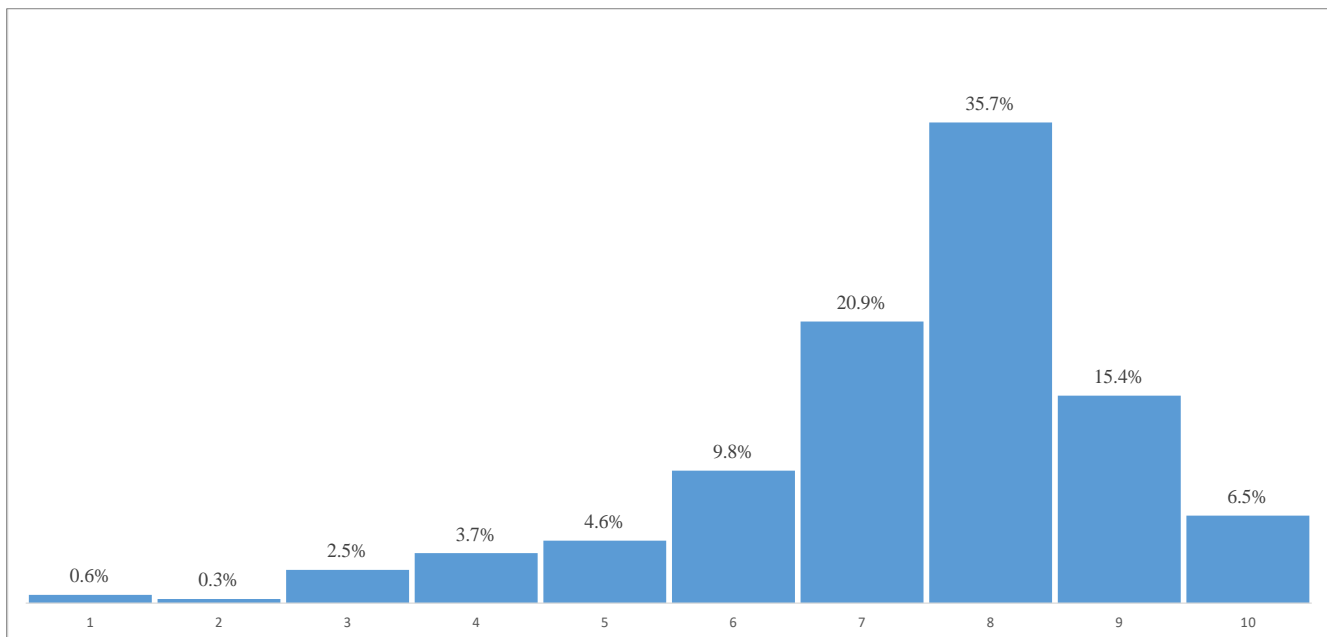


Figure 7. Overall job satisfaction (1–10; where 1 is minimum, whereas 10 is maximum)

#### 4.2.5 Work relationships

Nearly two-thirds of the respondents were satisfied with their supervisor in terms of their supervisory and leadership skills, with most (83.7%) stating that their immediate supervisor is fair with subordinates. In addition, 78.8% stated that their supervisors showed interest in their welfare and progress. The grand majority of respondents mentioned that their working relationships with their peers were generally friendly, and they often received support from their peers in the department (91.4% and 86.8%, respectively) (Figure 8). Furthermore, respondents believed that lack of coordination/communication among the members (79.1%), lack of cooperation among the members (60%), and lack of cohesion among the members (41.5%) are the main reasons for unsuccessful teamwork (Figure 9).



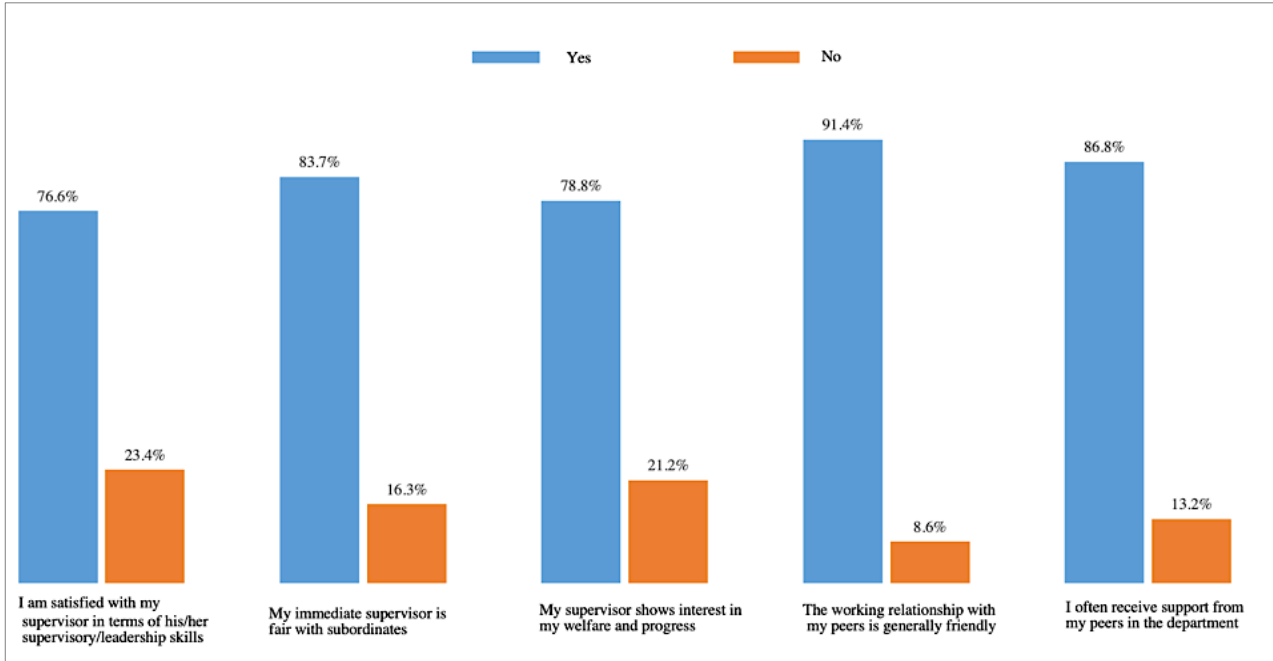


Figure 8. Responses to the questions related to work relationships

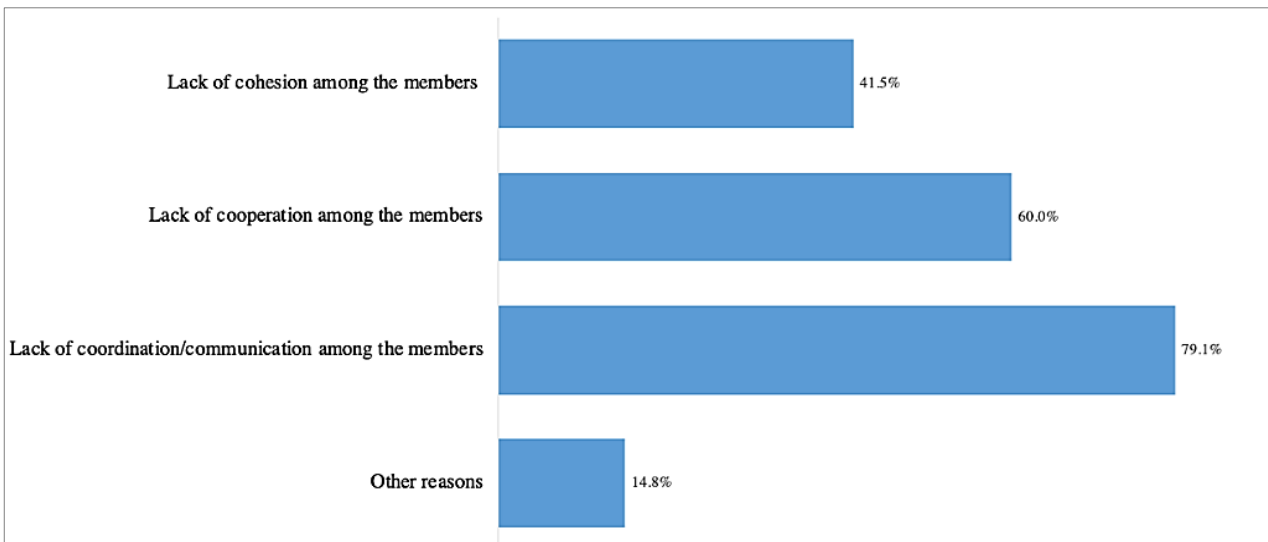


Figure 9. Employee beliefs about unsuccessful teamwork

**4.2.6 Culture within the company**

Our results showed that 73.6% of the respondents agreed that the organisation celebrates its success with employees, whereas only 11.7% disagreed, and 14.8% were uncertain. Likewise, 59.7% agreed that the organisation deals effectively with poor performance, 12.9% disagreed, and 27.7% were uncertain. Nearly 77.5% agreed that the mission/purpose of the company makes them feel important, 8.4% disagreed, and 14.2% were uncertain. Furthermore, 78.2% agreed that the organisation encourages sharing of information, knowledge, and resources, only 10.7% disagreed, and 11.1 were uncertain. Lastly, 78.8% agreed that there is continuous communication in the organisation about the goals and progress achieved, only 10.2% disagreed, and 11.1% were uncertain (Figure 10).

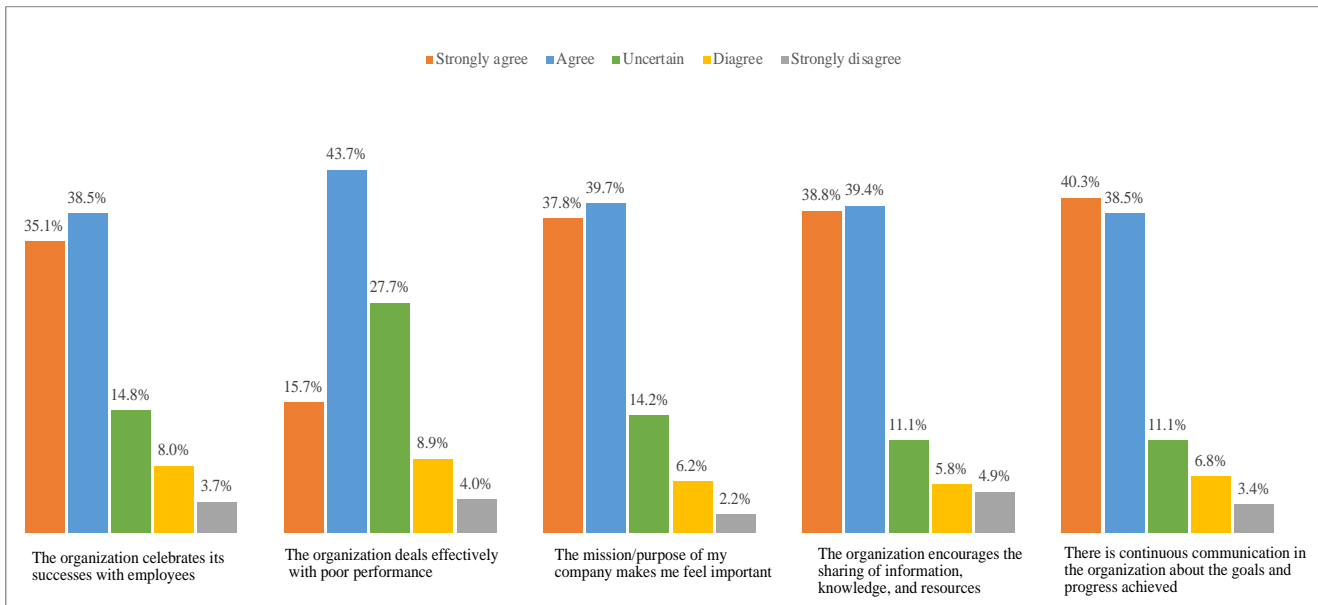


Figure 10. Responses to the questions related to culture within the company

**4.2.7 Motivation in the company**

Approximately 72.9% of the respondents agreed about having the materials and equipment needed to perform their work well, whereas only 12.6% disagreed, and 14.5% were uncertain (4.6.2). Regarding job promotion, more than half (56.3%) of the respondents agreed that job promotions were awarded based on achievement, 21.2% disagreed, and 22.5% were uncertain. Furthermore, 82.5% of respondents agreed (that they had been given more responsibility since they started, whereas only 8% disagreed, and 9.5% were uncertain (Figure 11).

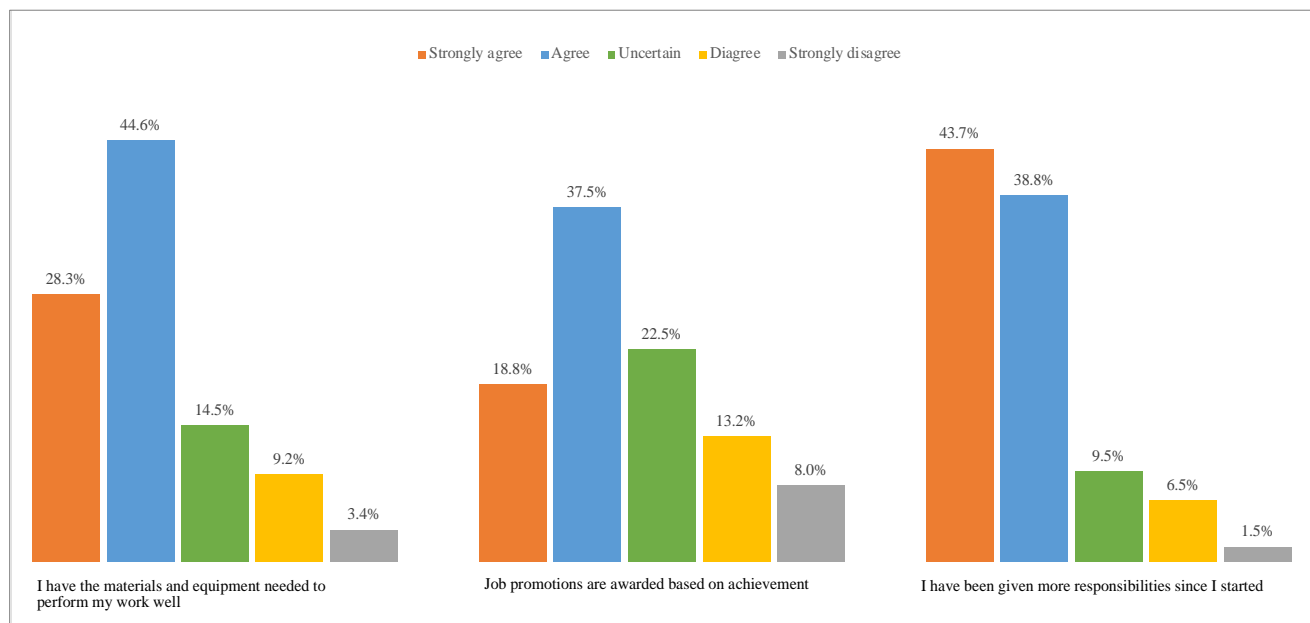


Figure 11. Responses to the questions related to motivation in the company

**4.2.8 Leadership within the company**

Our results showed that 72% of the respondents agreed that leadership and management enjoyed a high level of trust from employees, whereas only 12.9% disagreed, and 15.1% were uncertain. Moreover, 70.5% agreed that managers communicate frequently and honestly about issues affecting employees, 17% disagreed, and 12.6% were uncertain. In addition, 67.1% agreed that managers should keep them informed and up-to-date, 13.8% disagreed, and 19.1% were uncertain. Likewise, 70.2% agreed that managers empower employees to make effective decisions, 13.5% disagreed, and 16.3% were uncertain. Lastly, 74.8% agreed that managers showed fairness and respect in their interactions with employees, whereas only 11.7% disagreed, and 13.5% were uncertain (Figure 12).

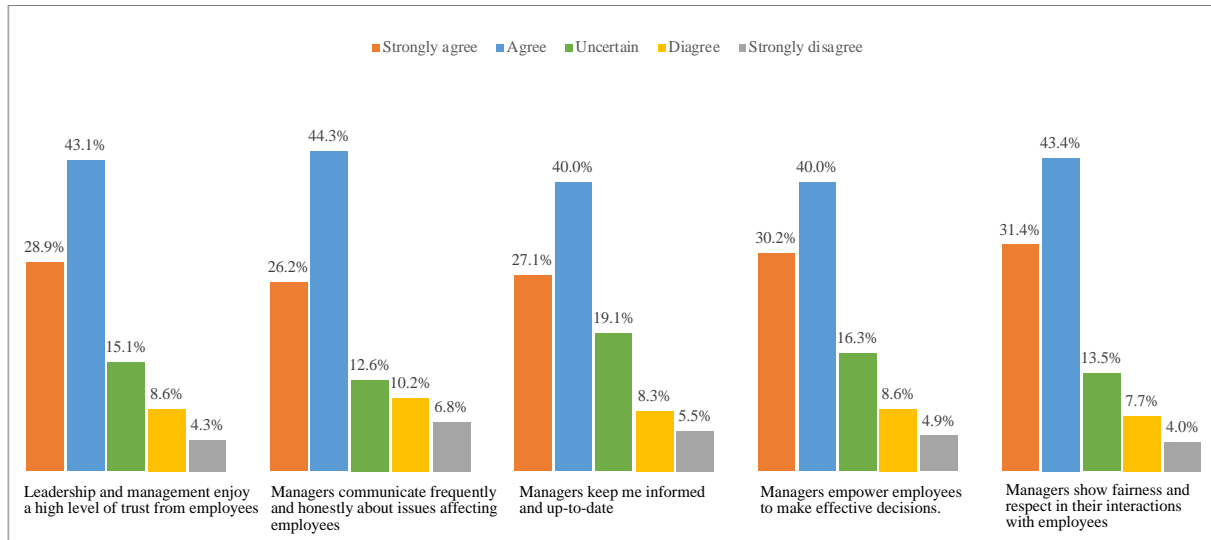


Figure 12. Responses to the questions related to leadership in the company

**4.3 Inferential analysis**

**4.3.1 Correlation analysis**

Non-parametric (Spearman’s rank) correlation was used in this study. The correlation coefficients are presented in Table 4.

**Table 4. Summary of the correlation analysis of employee retention**

Correlation Coefficient	SEB	JWC	WR	CWC	MIC	LIC
<b>ER</b>	0.454	0.342	0.281	0.418	0.731	0.385
<b>P-Value (2-tailed)</b>	0.000	0.000	0.000	0.000	0.000	0.000
<b>N</b>	325	325	325	325	325	325

SEB: Salary/Employee benefits; JWC: Job working conditions; WR: Work relationship; CWC: Culture within the company; MIC: Motivation in the company (MIC); LIC: Leadership in the company (LIC).

**4.3.1.1 Employee Retention (ER) versus Salary/Employee Benefit (SEB)**

The correlation coefficient between employee retention and salary/employee benefits was 0.454. This implies a moderate positive correlation between employee retention and salary/employee benefits. That is, an increase in salary/employee benefits results in an increase in employee retention and vice versa.

**4.3.1.2 Employee Retention (ER) versus Job/Work Condition (JWC)**

The correlation coefficient between employee retention and job/work conditions was 0.342. This implies a weak positive correlation between employee retention and job/work conditions. In other words, an increase in job/work conditions will increase employee retention, and a decrease in job/work conditions will result in a decrease in employee retention.

**4.3.1.3 Employee Retention (ER) versus Work Relationship (WR)**

The correlation coefficient between employee retention and work relationships is 0.281. This implies a weak positive correlation between employee retention and work relationships. In other words, an increase in work relationships will increase employee retention, and a decrease in work relationships will result in a decrease in employee retention.

**4.3.1.4 Employee Retention (ER) versus Culture within Company (CWC)**

The correlation coefficient between employee retention and culture within the company was 0.418. This implies a moderate positive correlation between employee retention and culture within a company. In other words, an increase in culture within a company will increase employee retention, and a decrease in culture within a company will result in a decrease in employee retention.

**4.3.1.5 Employee Retention (ER) versus Motivation in the Company (MIC)**

The correlation coefficient between employee retention and company motivation was 0.731. This implies a strong positive correlation between employee retention and company motivation. That is, an increase in motivation in the company results in an increase in employee retention, and a decrease in motivation in the company results in a decrease in employee retention.

**4.3.1.5 Employee Retention (ER) versus Leadership within Company (LWC)**

The correlation coefficient between employee retention and leadership within the company was 0.358. This implies a weak positive correlation between employee retention and leadership within a company. That is, an increase in leadership within a company results in an increase in employee retention, and a decrease in leadership within a company results in a decrease in employee retention.

**Summary correlation analysis:** All the independent variables positively affect employee retention, having “motivation in the company” as the key factor influencing “employee retention.” This suggests that to experience a greater increase in employee retention, the company should improve more on the factors that motivate employees, including other independent factors mentioned earlier.

**4.3.2 Regression Analysis**

Regression analysis shows the relationship between the dependent variables and independent variable(s) and also helps to fit the prediction model. Ordinal logistic regression was used for prediction, with employee retention as the dependent variable.

**Model Fitting Information:** This shows whether there is a significant relationship or no significant relationship between the variables. From Table 5, P-value = 0.000, which is <0.05, there is a significant relationship between the dependent variable (ER) and independent variables (SEB, JWC, WR, CWC, MIC, and LWC).

**Table 5. Model fitting summary**

Model	Likelihood	Chi-Square	df	Sig
Intercept only	1434.901			
Final	685.961	748.940	6	0.000

df: Degrees of freedom; Sig: Significance

**Goodness of Fit:** From Table 6, P-value = 1.000, which is >0.05, then it is not significant and indicates that the model fits the data well.

**Table 6. Goodness of fit summary**

	Chi-Square	df	Sig.
Pearson	1435.732	4167	1.000
Deviance	684.575	4167	1.000

df: Degrees of freedom; Sig: Significance

**R-Squared:** R-squared provides information on the percentage of the dependent variable explained by the independent variable. From Table 7, the percentage of the dependent variable explained by the independent variable ranged from 52.1% to 91.1%. This implies that 52.1% to 91.1% of employee retention is explained by salary/employee benefits, job/work conditions, work relationships, culture, motivation, and leadership within the company.

**Table 7. R-Squared summary**

<b>Cox and Snell</b>	0.900
<b>Nagelkerke</b>	0.911
<b>McFadden</b>	0.521

**Ordinal Regression Coefficient:** These are the estimated or predicted changes in log odds of being in a higher (as opposed to a lower) group/category on the dependent variable per unit increase in the independent variable.

**Table 8. Ordinal Regression coefficient summary**

<b>Independent Variables</b>	<b>P-Value</b>	<b>Estimate</b>	<b>Significance Status</b>
<b>Employee Retention (ER)</b>	0.256	-2.00	Not significant
<b>Salary/Employee Benefits (SEB)</b>	0.000	6.313	Significant
<b>Job working conditions (JWC)</b>	0.137	-0.821	Not significant
<b>Work relationships (WR)</b>	0.000	-9.492	Significant
<b>Culture within the company (CWC)</b>	0.000	27.274	Significant
<b>Motivation in the company (MIC)</b>	0.730	-0.066	Not significant

**4.3.3 Summary of regression analysis:**

1. Job/work condition (JWC) is a significant positive predictor of employee retention. For every one-unit increase in job/work conditions, there is a predicted increase of 6.313 in the odds of being at a higher level of employee retention.
2. Culture within the company (CWC) is a negative significant predictor of employee retention. The negative coefficient (value of -0.821) shows that for every one-unit increase in culture within a company, there is a predicted decrease of 0.821 in the odds of being at a higher level of employee retention.
3. Motivation in the company (MIC) is a significant positive predictor of employee retention. For every one-unit increase in job/work conditions, there was a predicted increase of 27.274 in the odds of being at a higher level of employee retention.

**5. Discussion**

The pharmaceutical industry is one of the world's most powerful sectors. It has experienced phenomenal growth in recent years (Malerba & Orsenigo, 2015). Today, the Saudi pharmaceutical market is considered one of the fastest-growing markets, with an increasing number of pharmaceutical factories producing a wide range of pharmaceutical products. This type of business necessitates the presence of highly skilled employees (Almaghaslah *et al.*, 2019). Hence, retaining key employees has become a major challenge and concern for today's businesses. Efforts have been made to develop policies and procedures that meet the needs of current workers to build and foster an atmosphere that encourages them to remain employed. Employee turnover negatively impacts an organisation's ability to function smoothly (Hejase *et al.*, 2016). This study aimed to identify the determinants of employee retention in Saudi pharmaceutical companies. Moreover, we analysed the impact of different independent variables on employee retention. These variables include salary/employee benefits, job/work conditions, work relationships, motivation in the company, the culture within the company, and leadership in the company. We applied a regression model to identify predictors of employee retention.

We found that all independent variables positively impact employee retention, with "motivation in the company" being the most influential factor. This implies that to boost employee retention, the organisation should focus on factors that motivate employees, as well as other independent variables identified in the research, such as increasing salaries and benefits, improving job/work conditions, maintaining positive work relationships, and maximising leadership support. Our results are similar to those of other studies that assessed employee retention determinants in other emerging pharmaceutical markets, for example, Malaysia and Lebanon (Hejase *et al.*, 2016; Zaman, Arokiasamy, & Abd Hamid, 2021). We found that salary/employee benefits positively impacted employee retention. This finding is similar to the results of studies conducted in Pakistan and India, where the salary was the main

driver of employee retention (Khan, 2012; Yoganandan, 2021). However, salary did not show a strong positive correlation with employee retention in our study. Finally, our study showed that motivation in the company and job/work conditions were significant predictors of employee retention. Similarly, Hejase *et al.* (2016) found that job/work conditions are key predictors of employee retention in Lebanese pharmaceutical companies.

## 6. Conclusion

The results indicate a significant relationship between salary/employee benefits, motivation, work conditions, organizational culture, leadership support, and employee retention in pharmaceutical companies in Saudi Arabia. Hence, executives in pharmaceutical companies should develop strategies to ensure the long-term retention of their employees, improve organizational performance, and minimise the cost of employee attrition. Employee motivation and improvement of work conditions are considered areas of future research because both factors positively predicted high employee retention in this study.

### 6.1 Limitations and Scope for Future Research

Given that the pharmaceutical sector is a global industry, the inability to collect data from the region is a limitation of this research. Therefore, the findings cannot be generalised to include practices in other industries or industries from various regions. Another limitation is that this study focused only on employees and did not assess employee retention from an employer's perspective. These limitations were expected because of the time constraints.

Based on this study's findings, motivation in the company and job/working conditions are significant positive predictors of employee retention. Hence, we recommend that researchers focus on these two factors and thoroughly study them to increase the retention level in pharmaceutical companies. Furthermore, we recommend that researchers study employee retention from the employer's perspective to obtain a comprehensive idea about effective strategies to retain talented workers.

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## References

- [1] Almaghaslah, D., Alsayari, A., Asiri, R., & Albugami, N. (2019). Pharmacy workforce in Saudi Arabia: Challenges and opportunities: A cross-sectional study. *International Journal of Health Planning and Management*, 34(1), e583–e593. doi:[10.1002/hpm.2674](https://doi.org/10.1002/hpm.2674)
- [2] Al-Muallem, N., & Al-Surimi, K. M. (2019). Job satisfaction, work commitment and intention to leave among pharmacists: A cross-sectional study. *BMJ open*. Surimi, K.M., 9(9), e024448.
- [3] AlRuthia, Y., Alsenaidy, M. A., Alrabiah, H. K., AlMuhaisen, A., & Alshehri, M. (2018). The status of licensed pharmacy workforce in Saudi Arabia: A 2030 economic vision perspective. *Human Resources for Health*, 16(1), 28. doi:[10.1186/s12960-018-0294-8](https://doi.org/10.1186/s12960-018-0294-8)
- [4] Asif, A., & Gul, N. (2021). Analyzing the determinants of employee retention: A case of pharmaceutical companies in Pakistan. *Journal of Entrepreneurship, Management, and Innovation*, 3(1), 147–176. doi:[10.52633/jemi.v3i1.57](https://doi.org/10.52633/jemi.v3i1.57)
- [5] Azeez, S. A. (2017). Human resource management practices and employee retention: A review of the literature. *Journal of Economics, Management and Trade*, 18(2), 1–10. doi:[10.9734/JEMT/2017/32997](https://doi.org/10.9734/JEMT/2017/32997)
- [6] Aziri, B. (2011). Job satisfaction: A literature review. *Management Research and Practice*, 3(4).
- [7] Babapour, J., Gholipourb, A., & Mehralian, G. (2018). Human resource management challenges to develop pharmaceutical industry: Evidence from developing countries. *Iranian journal of pharmaceutical research: IJPR*, 17. *Iranian Journal of Pharmaceutical Research*, 17(Suppl2), 224.
- [8] Bonenberger, M., Aikins, M., Akweongo, P., & Wyss, K. (2014). The effects of health worker motivation and job satisfaction on turnover intention in Ghana: A cross-sectional study. *Human Resources for Health*, 12(1), 43. doi:[10.1186/1478-4491-12-43](https://doi.org/10.1186/1478-4491-12-43)
- [9] Cameron, K. S., & Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the competing values framework*. Chichester: John Wiley & Sons.
- [10] Gwavuya, F. (2011). Leadership influences on turnover intentions of academic staff in tertiary institutions in Zimbabwe. *Academic leadership: The online journal*, 9, 1, 36.
- [11] Hejase, H. J., El Dirani, A., Hamdar, B., & Hazimeh, B. (2016). Employee retention in the pharmaceutical companies: Case of Lebanon. *Journal of Business and Management*, 18(4), 58–75.

- [12] Khan, S. (2012). Why sale persons quit? A study of its antecedents and impact on sales. A case of a medical representative of Peshawar, Pakistan. *Herald journal marketing and business management*, 1, 2.
- [13] Kroon, B., & Freese, C. (2013). Can HR practices retain flexworkers with their agency? *International Journal of Manpower*, 34(8), 899–917. doi:[10.1108/IJM-07-2013-0169](https://doi.org/10.1108/IJM-07-2013-0169)
- [14] Mabuza, P. F., & Proches, C. N. G. (2014). Retaining core, critical and scarce skills in the energy industry. *Indian Journal of Industrial Relations*, 635–648.
- [15] Malerba, F., & Orsenigo, L. (2015). The evolution of the pharmaceutical industry. *Business History*, 57(5), 664–687. doi:[10.1080/00076791.2014.975119](https://doi.org/10.1080/00076791.2014.975119)
- [16] Martin, M. J. (2006). That's the way we do things around here: An overview of organizational culture. *Electronic Journal of Academic and Special Librarianship*, 7(1). Retrieved from <http://southernlibrarianship.icaap.org>.
- [17] Mikulic, M. (2021). Revenue of the worldwide pharmaceutical market from 2001 to 2020. Retrieved from <https://www.statista.com/statistics/263102/pharmaceutical-market-worldwide-revenue-since-2001/#statisticContainer>
- [18] Parent-Thirion, A., Fernández Macías, E., Hurley, J., & Vermeylen, G. (2007). *Fourth European working conditions survey*, European Foundation for the Improvement of Living and Working Conditions (pp. 37–61). Luxembourg: Office for Official Publications of the European Communities.
- [19] Salam, A., Abu-Helalah, M., Jorissen, S. L., Niaz, K., Mansour, A., & Al Qarni, A. (2014). Job stress and job satisfaction among health care professionals. *European Scientific Journal, ESJ*, 10(32). Retrieved from <https://eujournal.org/index.php/esj/article/view/4549>.
- [20] Schein, E. H. (2011). The concept of organizational culture: Why bother? *Classics of organizational theory*, 7, 349–360.
- [21] Suleiman, A. K. (2015). Stress and job satisfaction among pharmacists in Riyadh, Saudi Arabia. *Saudi Journal of Medicine and Medical Sciences*, 3(3), 213. doi:[10.4103/1658-631X.162025](https://doi.org/10.4103/1658-631X.162025)
- [22] Tawfik, E. A., Tawfik, A. F., Alajmi, A. M., & Badr, M. Y. (2021). Localizing Pharmaceuticals Manufacturing and Its Impact on Drug Security in Saudi Arabia. Al-jedai, A. Almozain, N.H., & Almalik, A.M. *Saudi Pharmaceutical Journal*.
- [23] Vijayabanu, C., Suppraja, R., & Sathammai, C. (2017). Motivation and performance excellence of pharma employees-A case study approach. *Research Journal of Pharmacy and Technology*, 10(1), 70. doi:[10.5958/0974-360X.2017.00017.8](https://doi.org/10.5958/0974-360X.2017.00017.8)
- [24] Voon, M. L., Lo, M. C., Ngui, K. S., & Ayob, N. B. (2011). The influence of leadership styles on employees' job satisfaction in public sector organizations in Malaysia. *International Journal of Business, Management and Social Sciences*, 2(1), 24–32.
- [25] Wakabi, B. M. (2016). Leadership style and staff retention in organizations. *International Journal of Scientific and Engineering Research*, 5(1), 412–416.
- [26] Yaoprukchai, S., & Kardkarnklai, Um. (2014). Organizational Culture: The perspectives of new hires and existing employees of a pharmaceutical company in Thailand. *Asian Social Science*, 10(14), 224. doi:[10.5539/ass.v10n14p224](https://doi.org/10.5539/ass.v10n14p224)
- [27] Yoganandan, G. (2021). Salesmen's motivations in the pharmaceutical industry in India. *International Journal of Business Innovation and Research*, 26(1), 20–33. doi:[10.1504/IJBIR.2021.117741](https://doi.org/10.1504/IJBIR.2021.117741)
- [28] Zaman, S. S. Y. K., Arokiasamy, L., & Abd Hamid, Z. (2021). A study on factors influencing employee retention in the pharmaceutical industry in Malaysia. *Electronic Journal of Business and Management*, 6(1), 81–89