Job satisfaction and employee engagement: A study of Sudanese workers in Saudi Arabia

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ABSTRACT

This study explores the relationship between job satisfaction and employee engagement among Sudanese employees working in the Kingdom of Saudi Arabia. It examines how intrinsic and extrinsic job satisfaction contribute to engagement, emphasizing cultural and social factors influencing expatriate workers. Using a quantitative cross-sectional approach, the research investigates how intrinsic and extrinsic job satisfaction influence engagement. Data were collected from 146 respondents through a structured questionnaire, and multiple regression analysis was conducted to assess the predictive role of intrinsic and extrinsic job satisfaction on employee engagement. The results show that 51.1% of the variance in employee engagement ($R^2 = 0.511$) is explained by intrinsic and extrinsic job satisfaction. Intrinsic job satisfaction appeared as a stronger predictor (Beta = 0.523, p < 0.001) compared to extrinsic job satisfaction (Beta = 0.276, p < 0.001). The findings indicate that employees who derive personal meaning from their work are more likely to be engaged, emphasizing the importance of intrinsic factors such as recognition and personal growth in fostering employee engagement. While extrinsic factors such as salary and job security also contribute, their impact is relatively weaker. Cultural factors, including job security concerns and workplace respect, further shape engagement levels. Improving job satisfaction through competitive compensation, professional growth opportunities, and a supportive work environment can significantly enhance engagement. Understanding expatriates' unique motivators is vital for reducing turnover and improving performance. Organizations should adopt culturally sensitive strategies that address the specific needs of Sudanese expatriates, focusing on fair treatment, job security, and career development to maximize engagement. Future research should explore moderating factors such as leadership style and organizational culture.

Contribution/Originality: This research addresses a gap in multicultural workplace studies. It highlights the influence of intrinsic and extrinsic factors on job satisfaction and their impact on Sudanese employees' engagement in Saudi Arabia, providing practical recommendations for employers and policymakers to retain employees. The study focuses on exploring the micro-dynamics of a multicultural labor market, contributing new perspectives to migration and employment research.

1. INTRODUCTION

In modern organizational behavior research, job satisfaction has become a key component of both individual well-being and overall organizational success. Job satisfaction is defined as an employee's response to their job, and it is influenced by various aspects such as the nature of tasks, the work environment, and experiences within the workplace (Fisher, 2010). Job satisfaction is the extent to which employees are satisfied with their roles, with significant

consequences for individual performance and organizational outcomes (Weiss, 2002). Its importance is heightened by its clear effects on factors such as employee performance, organizational commitment, and workplace culture (Judge, Weiss, Kammeyer-Mueller, & Hulin, 2017).

The complexities of job satisfaction are characterized by the dynamic interaction between intrinsic factors, such as opportunities for personal growth, and extrinsic factors, such as compensation and working conditions (Adams, 1965; Hackman & Oldham, 1976). Recent research highlights its critical role in reducing employee turnover, improving employee performance, and developing a positive organizational culture (Hancock, Allen, Bosco, McDaniel, & Pierce, 2013). In addition, HRM emphasizes understanding and enhancing job satisfaction to improve employee well-being and organizational success (Robbins & Judge, 2012).

Employee engagement reflects employees' emotional and intellectual investment in their organization, and it is linked to employee satisfaction (Saks, 2017). Engaged employees tend to be more productive, creative, and committed to staying with the organization, which helps reduce employee turnover and its associated costs (Schaufeli, 2017). Since employee satisfaction is a crucial factor in driving employee engagement, it is imperative that organizations implement strategies that foster both, ensuring that employees feel valued, supported, and engaged (Albrecht, Bakker, Gruman, Macey, & Saks, 2015).

Although extensive research has been conducted on employee satisfaction and its impact on engagement, the existing literature often lacks an assessment of theoretical models and their applicability across different contexts. Many studies utilize traditional frameworks that may not adequately address modern workplace dynamics and do not reflect cultural differences. Additionally, earlier research often generalizes findings without adequately acknowledging these differences. A deeper critique of these limitations is necessary to develop more comprehensive and adaptable models that reflect the realities of contemporary work environments. Some studies have also failed to prove a causal relationship between employee satisfaction and engagement, instead treating them as correlational variables without a deeper understanding of their interdependence.

This paper aims to examine the complex relationship between job satisfaction and employee engagement, focusing on how intrinsic and extrinsic factors of job satisfaction contribute to employee engagement. By exploring this relationship, the study seeks to add to the literature on the importance of fostering a satisfied and engaged workforce and to provide insights into HR strategies that can improve both, ultimately enhancing organizational performance.

2. LITERATURE REVIEW

2.1. Job Satisfaction

Job satisfaction is viewed as a combination of environmental patterns and psychological conditions that can lead a person to honestly acknowledge satisfaction with the work done (Tnay, Othman, Siong, & Lim, 2013). It boosts employee morale and that is why employees show positive feelings towards the organization (Hakro, Jhatial, & Chandio, 2022). Job satisfaction is important because an employee's attitude and beliefs may influence his or her behavior and interactions with the organization (Yousef & Shadi, 2021).

Job satisfaction theories include Herzberg's two-factor theory, which distinguishes between hygiene and motivation factors (Herzberg, 2017), and Maslow's hierarchy of needs, which suggests that job satisfaction arises from the fulfillment of hierarchical needs (Maslow, 1943). Equity theory focuses on fairness and social comparison (Adams, 1965). However, evaluating and interpreting job satisfaction can be challenging due to its subjective nature and possible biases in self-reported surveys (Binder, 2015). The Minnesota Satisfaction Questionnaire (MSQ) displays key determinants, including intrinsic factors such as achievement and recognition, and extrinsic factors such as pay and working conditions (Bayraktar, 1996).

Research has shown that improved job satisfaction significantly enhances employee performance and reduces the likelihood of turnover (Lu, Cooper, Kao, & Zhou, 2003). Furthermore, job satisfaction has been shown to mediate the relationship between the work environment and employee engagement, highlighting its significance in creating a

motivated workforce (Christian, Garza, & Slaughter, 2011). Additionally, employees who are satisfied with their jobs experience better mental health and less stress, which enhances overall well-being in the workplace (Faragher, Cass, & Cooper, 2005).

Demographic factors such as age, gender, and education affect job satisfaction, with older employees and those with higher education often reporting greater satisfaction (Ng & Feldman, 2010). Organizational factors such as leadership style and telecommuting flexibility have been identified as key determinants of job satisfaction (Smith, Lapkin, Halcomb, & Sim, 2023). Job-related factors such as work-life balance and career development opportunities are essential for maintaining high job satisfaction, avoiding burnout, and promoting career growth (Greenhaus & Powell, 2006).

Trends in job satisfaction have changed, with a growing emphasis on work-life balance and flexibility, leading to more remote work and flexible arrangements (Allen, Golden, & Shockley, 2015). Technology and automation are affecting job satisfaction by altering job roles and work environments, creating both opportunities and challenges (Brougham & Haar, 2018).

Case studies in various industries show that executing employee recognition programs and flexible work schedules enhance job satisfaction (Carter & Tourangeau, 2012). Successful interventions and a supportive work environment serve as best practices for improving satisfaction across sectors (Manuti & De Palma, 2014).

Looking ahead, evolving examinations of job satisfaction reveal that transformational leadership is regarded as the baseline for building organizational culture and increasing satisfaction (Aristana, Arsawan, & Wisnawa, 2023). Additionally, societal and technological changes are expected to shift job satisfaction factors towards flexibility and work-life balance (Wang, Liu, Qian, & Parker, 2021).

Overall, job satisfaction is critical for both employee well-being and organizational effectiveness. Organizations must consider intrinsic and extrinsic factors, adopt supportive policies, and adapt to changing societal and technological landscapes to maintain high levels of job satisfaction.

2.2. Employee Engagement

Employee engagement is an emotional and intellectual commitment to the organization (Saks, 2006). It is characterized by three key dimensions: vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). Engagement has broad implications for outcomes such as productivity, customer satisfaction, and employee retention (Harter, Schmidt, & Keyes, 2003). Engaged employees tend to be more committed and effective, which in turn enhances overall performance (Harter, Schmidt, Agrawal, Plowman, & Blue, 2016). Furthermore, engagement fosters loyalty, reduces turnover, and improves job satisfaction (Schaufeli, 2017). Organizations that cultivate supportive cultures and prioritize worker well-being through engagement initiatives create more sustainable workplaces (Bakker & Albrecht, 2018). Additionally, engaged employees are often more innovative, leading to continuous improvements and higher customer satisfaction (Salanova & Schaufeli, 2008). Creating engagement strategies for long-term success (Armstrong, 2016).

Many psychological and motivational theories explain how organizations can enhance engagement. The Job Demands-Resources (JD-R) model suggests that engagement arises from a combination of job demands and resources, which in turn boosts motivation and performance (Bakker & Demerouti, 2008). Kahn's (1990) theory emphasizes the importance of meaningful work, safety, and resource availability in fostering full engagement. Similarly, Social Exchange Theory (SET) asserts that fair treatment and organizational support lead to reciprocal engagement from employees (Cropanzano, Anthony, Daniels, & Hall, 2017). Self-Determination Theory (SDT) recommends that engagement thrives when employees' needs for autonomy, competence, and relatedness are met (Ryan & Deci, 2019). Recent research also emphasizes the importance of effective leadership and job resources in enhancing engagement (Albrecht, Breidahl, & Marty, 2018).

Measuring employee engagement requires a comprehensive approach. The widely used Utrecht Work Engagement Scale (UWES) assesses vigor, dedication, and absorption (Schaufeli et al., 2006) while newer studies suggest combining self-reported surveys with objective indicators such as productivity, turnover, and absenteeism for a more complete evaluation (Bakker, Demerouti, & Sanz-Vergel, 2014). Qualitative methods, such as interviews and focus groups, also offer deeper insights into employee experiences and motivations (Kulikowski, 2021). This combination of quantitative and qualitative methods is crucial for capturing the complexity and dynamism of engagement (Saks, 2017).

The factors that influence employee engagement can be categorized into organizational and individual aspects. Organizational factors, such as job resources, autonomy, and development opportunities, enhance engagement by satisfying essential needs (Bakker & Demerouti, 2017). Leadership, especially transformational and supportive styles, plays a key role in fostering motivation and engagement (Scharp, Breevaart, Bakker, & Van der Linden, 2019). When employees receive organizational support in the form of recognition, fairness, and a positive work environment, their emotional attachment to their organization has greatly increased (Saks, 2019). On an individual level, personal resources such as self-efficacy, resilience, and emotional intelligence help employees manage job demands and stay engaged (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Work-life balance and psychological safety contribute to employees feeling valued and secure in their positions (Kahn, 1990). Furthermore, giving employees a sense of purpose and belonging through meaningful work and alignment with organizational values leads to an increase in engagement (Albrecht et al., 2015).

The concept continues to provide scholarly discussion regarding its distinctiveness from similar constructs (Macey & Schneider, 2008) and measurement limitations (Saks, 2019). Cross-cultural applicability questions (Kim et al., 2017) and potential negative outcomes of excessive engagement (Van Wijhe, Peeters, Schaufeli, & Van den Hout, 2011) represent ongoing research areas. Nevertheless, engagement remains a cornerstone of organizational studies due to its demonstrated impact on workplace success.

2.3. Job Satisfaction and Employee Engagement

Job satisfaction is an important factor in employee engagement, which is essential for organizational success. Research has consistently observed that satisfied employees tend to be more engaged, displaying higher commitment and productivity. For instance, Judge et al. (2017) found a direct correlation between job satisfaction and employee engagement and concluded that satisfied employees show greater enthusiasm and dedication. Similarly, Bakotić (2016) demonstrates that job satisfaction enhances employees' emotional attachment to their organization, fostering deeper engagement

A meta-analysis by Christian et al. (2011) confirmed that job satisfaction is a strong predictor of employee engagement, specifying that when employees feel valued and fulfilled, they give their best. This view is supported by Harter et al. (2003), who demonstrated that job satisfaction enhances psychological well-being, leading to higher levels of engagement

Bipp and Kleingeld (2011) revealed that job satisfaction not only boosts engagement but also reduces turnover, resulting in a more stable workforce. Albrecht et al. (2015) also emphasized that satisfied employees are more likely to engage in initiative-taking behaviors, contributing to overall organizational performance.

Additionally, Bailey, Madden, Alfes, and Fletcher (2017) found that job satisfaction enhances employees' intrinsic motivation, a key driver of engagement. Satisfied employees are more likely to find purpose and meaning in their work, which results in long-term engagement.

2.4. Hypotheses of the Study

The hypotheses to be examined in this study are as follows.

H₁: There is a statistically significant relationship between intrinsic job satisfaction and employee engagement.

H$_2$: There is a statistically significant relationship between extrinsic job satisfaction and employee engagement.

H$_3$: There is a statistically significant relationship between job satisfaction and employee engagement.

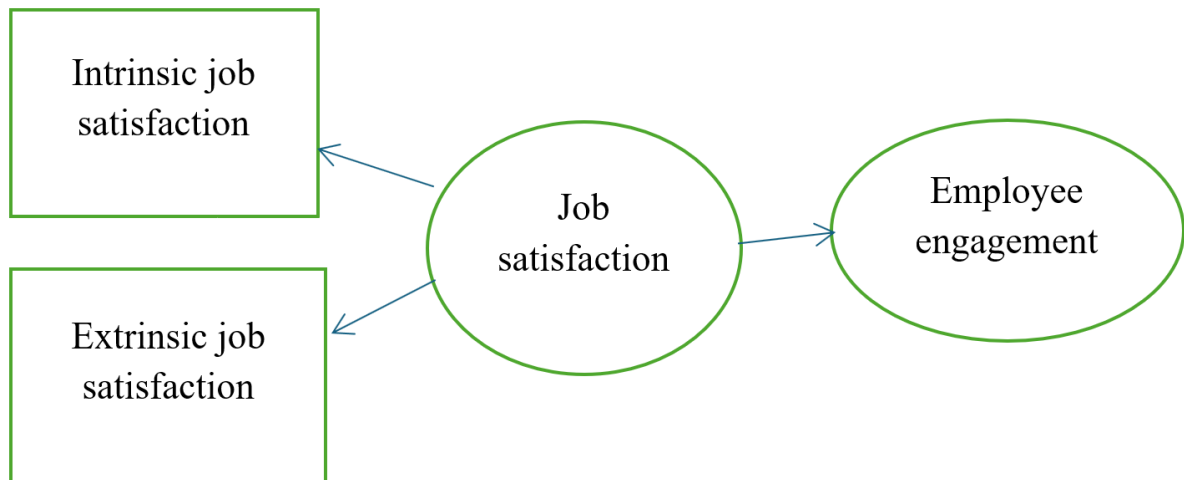The research framework for this study is illustrated in Figure 1.

Figure 1. The research model.

3. RESEARCH METHODOLOGY

This study adopts an explanatory approach using a cross-sectional survey design to investigate the relationship between intrinsic and extrinsic job satisfaction and employee engagement. A quantitative research method is used, where the independent variables are intrinsic and extrinsic job satisfaction, and the dependent variable is employee engagement.

3.1. Population and Sampling

The population for this research consists of Sudanese expatriates working in Saudi Arabia. A convenience sampling technique was used to select participants from this population. To ensure statistical relevance, the sample size was calculated using Saunders, Lewis, and Thorn hill (2009)'s formula. The application of this formula yielded a minimum required sample size of 196 employees. Of the distributed questionnaires, 146 were completed and returned, resulting in a response rate of approximately 75%.

The sample size equation.

$$\text{The sample (n)} = \frac{p*q*(z)^2}{(e)^2} \qquad (1)$$

Source: Saunders et al. (2009).

$$\text{The sample (n)} = \frac{0.5*0.5*(1.96)^2}{(0.07)^2} = 196 \qquad (2)$$

3.2. Data Collection

In this research, researchers collected data on job satisfaction and employee engagement among Sudanese workers in Saudi Arabia using both primary and secondary data collection methods. Primary data were gathered through a structured questionnaire designed to assess various dimensions of job satisfaction and employee engagement. The questionnaire was distributed electronically and in person to ensure a higher response rate and diverse participation. Secondary data were obtained from relevant academic sources to provide theoretical and empirical context.

Job satisfaction is measured by the Minnesota Satisfaction Questionnaire (MSQ), which consists of 12 statements about intrinsic job satisfaction and 8 statements regarding extrinsic job satisfaction. Employee engagement is

assessed using the Utrecht Work Engagement Scale (UWES), which includes 14 statements. All research instruments were measured using a 5-point Likert scale.

3.3. Data Analysis

The collected data were analyzed using multiple regression analysis to examine the relationship between job satisfaction (both intrinsic and extrinsic) and employee engagement. The analysis focused on determining how well job satisfaction predicts employee engagement by assessing the overall explained variance in the model (R^2) and the individual contributions of intrinsic and extrinsic job satisfaction (B coefficients). Additionally, Pearson's correlation was applied to evaluate the strength of the relationships between the variables.

4. Data Analysis and Results

Initially, correlation analyses were performed, followed by hypothesis testing through multiple regression analysis.

Table 1. Correlation between job satisfaction and employee engagement.

Correlations				
Variables	Correlation	Intrinsic job satisfaction	Extrinsic job satisfaction	Employee engagement
Intrinsic job satisfaction	Pearson correlation	1	0.560**	0.677**
	Sig. (2-tailed)		0.000	0.000
	N	146	146	146
Extrinsic job satisfaction	Pearson correlation	0.560**	1	0.568**
	Sig. (2-tailed)	0.000		0.000
	N	146	146	146
Employee engagement	Pearson correlation	0.677**	0.568**	1
	Sig. (2-tailed)	0.000	0.000	
	N	146	146	146

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Table 1: The correlations between intrinsic job satisfaction, extrinsic job satisfaction, and employee engagement reveal noteworthy findings. Intrinsic and extrinsic job satisfaction are moderately related (r = 0.560), suggesting that employees who find enjoyment in their work often value external rewards as well. More significantly, intrinsic job satisfaction is strongly correlated with employee engagement (r = 0.677), indicating that employees who experience fulfillment and purpose in their work tend to be more engaged. Although extrinsic job satisfaction also correlates with engagement (r = 0.568), its impact is less pronounced compared to intrinsic factors. This underscores the importance for organizations to focus on fostering intrinsic motivations, such as opportunities for personal growth and meaningful work, to promote higher levels of employee engagement.

4.1. Reliability Analysis

A reliability analysis was conducted to evaluate the internal consistency of the measurement scales used in the study. Cronbach's Alpha, a commonly used indicator of scale reliability, was applied to assess this. A high Cronbach's Alpha indicates strong internal consistency among the items measuring each construct.

Table 2. Reliability Coefficients (Cronbach's alpha)

Construct	Variable	Number of items	Cronbach's alpha
Job satisfaction	Intrinsic job satisfaction	12	0.931
	Extrinsic job satisfaction	8	0.930
Employee engagement	Employee engagement	15	0.929

Table 2 demonstrates excellent reliability for all variables, with Cronbach's Alpha values exceeding the 0.7 threshold, confirming that the items in the questionnaire are highly dependable. The overall Cronbach's Alpha for the study was 0.93, indicating strong internal consistency across all constructs.

4.2. Descriptive Analysis

A descriptive analysis was conducted to determine the distribution and central tendencies of the major variables in the study, including intrinsic job satisfaction, extrinsic job satisfaction, and employee engagement. The results demonstrated that all variables followed a normal distribution, with most values centered around the mean, reflecting a well-balanced representation of responses within the sample. This indicates that the data are appropriate for further statistical analyses, such as regression and correlation.

Table 3. Participants' responses on intrinsic job satisfaction.

Statement	Fr.	Very dissatisfied	Dissatisfied	N	Satisfied	Very satisfied	Mean	SD	Rank
Being able to keep busy all the time	Fr.	15	43	25	54	9	2.99	1.154	11 medium
	%	10.3	29.5	17.1	37	6.2			
The chance to work alone on the job	Fr.	10	29	39	53	15	3.23	1.096	10 medium
	%	6.8	19.9	26.7	36.3	10.3			
The chance to do different things from time to time	Fr.	4	15	20	74	33	3.80	0.994	5 high
	%	2.7	10.3	13.7	50.7	22.6			
The chance to be "somebody" in the community	Fr.	4	13	14	66	49	3.98	1.020	4 high
	%	2.7	8.9	9.6	45.2	33.6			
Being able to do things that do not go against my conscience	Fr.	9	7	17	51	62	4.03	1.138	2 high
	%	6.2	4.8	11.6	34.9	42.5			
The way my job provides for steady employment	Fr.	7	16	28	69	26	3.62	1.051	9 high
	%	4.8	11	19.2	47.3	17.8			
The chance to do things for other people	Fr.	5	12	29	73	27	3.72	.974	8 high
	%	3.4	8.2	19.9	50	18.5			
The chance to tell people what to do	Fr.	2	11	37	66	30	3.76	.912	6 high
	%	1.4	7.5	25.3	45.2	20.5			
The opportunity to utilize my abilities	Fr.	2	9	12	69	54	4.12	.901	1 high
	%	1.4	6.2	8.2	47.3	37			
The freedom to use my own judgment	Fr.	5	16	34	65	26	3.62	1.011	9 high
	%	3.4	11	23.3	44.5	17.8			
The opportunity to try my own methods of doing the job	Fr.	6	15	22	72	31	3.73	1.039	7 high
	%	4.1	10.3	15.1	49.3	21.2			
The feeling of accomplishment I get from the job	Fr.	4	11	14	66	51	4.02	1.000	3 high
	%	2.7	7.5	9.6	45.2	34.9			

The findings from Table 3 show varying degrees of intrinsic job satisfaction among participants, with distinct trends in the factors contributing to their overall satisfaction. The highest mean score, 4.12, is associated with the opportunity to utilize personal abilities, indicating a strong preference for meaningful work. This is followed by scores for feelings of accomplishment (4.02) and alignment with personal values (4.03), highlighting the importance of personal fulfillment and ethical alignment in job roles.

On the other hand, the lowest mean score, 2.99, is associated with simply staying busy; suggesting that being occupied with tasks alone does not lead to job satisfaction. Factors like opportunities for independent work and variety in tasks received medium scores, reflecting moderate satisfaction in these areas. Overall, the data suggests that employees prioritize autonomy, purpose, and the chance to use their strengths, valuing psychological rewards over

the tasks themselves. The high satisfaction levels in most categories show a positive sentiment towards intrinsic job satisfaction, although there are still areas for improvement.

Table 4. Participants' responses on extrinsic job satisfaction.

Statement		SDA	DA	N	A	SA	Mean	SD	Rank
The way my boss manages his/her workers	Fr.	9	23	29	60	25	3.47	1.134	3
	%	6.2	15.8	19.9	41.1	17.1			High
The competence of my supervisor in making decisions	Fr.	11	21	39	57	18	3.34	1.104	5
	%	7.5	14.4	26.7	39	12.3			Medium
The way company policies are put into practice	Fr.	12	23	39	55	17	3.29	1.120	6
	%	8.2	15.8	26.7	37.7	11.6			Medium
My pay and the amount of work I do	Fr.	14	31	26	65	10	3.18	1.137	7
	%	9.6	21.2	17.8	44.5	6.8			Medium
The chances for advancement in this job	Fr.	17	43	34	40	12	2.91	1.168	8
	%	11.6	29.5	23.3	27.4	8.2			Medium
The working conditions	Fr.	7	18	27	72	22	3.58	1.043	2
	%	4.8	12.3	18.5	49.3	15.1			High
The way my co-workers get along with each other	Fr.	5	14	33	66	28	3.67	1.004	1
	%	3.4	9.6	22.6	45.2	19.2			High
The praise I get for doing an excellent job	Fr.	11	18	32	69	16	3.42	1.081	4
	%	7.5	12.3	21.9	47.3	11			High

Table 4 outlines the distribution of participants' extrinsic job satisfaction, highlighting several factors that shape their views on workplace conditions. The highest mean score, 3.67, is attributed to co-worker interactions, reflecting a strong sense of camaraderie and positive workplace relationships. This is followed closely by working conditions, with a score of 3.58, suggesting that a comfortable and supportive environment plays a significant role in extrinsic satisfaction.

Table 5. Participants' response on employee engagement.

Statement		SDA	DA	N	A	SA	Mean	SD	Rank
At work, I feel bursting with energy	Fr.	5	22	28	68	23	3.56	1.037	12
	%	3.4	15.1	19.2	46.6	15.8			High
I find the work that I do full of meaning and purpose	Fr.	3	9	24	82	28	3.84	0.876	7
	%	2.1	6.2	16.4	56.2	19.2			High
Time flies when I am working	Fr.	3	9	10	87	37	4.00	0.871	4
	%	2.1	6.2	6.8	59.6	25.3			High
At my job, I feel strong and vigorous.	Fr.	5	16	23	69	33	3.75	1.036	9
	%	3.4	11	15.8	47.3	22.6			High
I am enthusiastic about my job	Fr.	5	7	20	78	36	3.91	0.939	5
	%	3.4	4.8	13.7	53.4	24.7			High
When I am working, I forget everything around me	Fr.	1	2	3	4	5	3.61	1.059	11
	%	4	24	25	65	28			High
My job inspires me	Fr.	7	12	26	68	33	3.74	1.051	10
	%	4.8	8.2	17.8	46.6	22.6			High
When I get up in the morning, I want to go to work	Fr.	9	18	29	64	26	3.55	1.108	13
	%	6.2	12.3	19.9	43.8	17.8			High
I feel happy when I am working intensely	Fr.	1	2	14	69	60	4.27	0.745	1
	%	0.7	1.4	9.6	47.3	41.1			Very High
I am proud of the work that I do	Fr.	1	4	13	68	60	4.25	0.784	2
	%	0.7	2.7	8.9	46.6	41.1			Very High
I can continue working for exceptionally lengthy periods at a time	Fr.	5	11	30	64	36	3.79	1.012	8
	%	3.4	7.5	20.5	43.8	24.7			High
To me, my job is challenging	Fr.	1	13	24	71	37	3.89	0.911	6
	%	0.7	8.9	16.4	48.6	25.3			High
At my job, I am very resilient, mentally	Fr.	1	5	20	82	38	4.03	0.774	3
	%	0.7	3.4	13.7	56.2	26			High
It is difficult to detach myself from my job	Fr.	7	23	32	61	23	3.48	1.084	14
	%	4.8	15.8	21.9	41.8	15.8			High

Regarding management, the way bosses manage employees received a mean score of 3.47, indicating a generally favorable view but with room for improvement. In contrast, the lowest score, 2.91, was for opportunities for advancement, highlighting concerns about career progression among participants. Other areas, such as pay relative to work (3.18) and the implementation of company policies (3.29), were rated in the moderate range, suggesting moderate satisfaction and potential areas for enhancement. Overall, the data reveals that interpersonal relationships and working conditions are key contributors to extrinsic job satisfaction, while career advancement is an area that requires attention.

Table 5 summarizes participants' responses related to employee engagement, highlighting several key aspects of their work experience. The highest mean scores were for feeling happy while working intensely (4.27) and being proud of the work they do (4.25), indicating an intense sense of fulfillment and pride among employees. These feelings significantly contribute to overall engagement and motivation.

Participants also reported feeling energized at work (3.56) and described their work as meaningful (3.84), which underscores their emotional and psychological investment in their roles. Other aspects, such as enthusiasm for the job (3.91) and the ability to work for extended periods (3.79), further reflect a positive outlook towards their work environment.

Interestingly, while most items scored highly, the item about difficulty in detaching from work (3.48) suggests that employees may experience challenges in supporting work-life balance. Overall, the results show a highly engaged workforce, characterized by energy, pride, and an intense sense of purpose, although attention to work-life boundaries may be beneficial for sustaining this engagement.

Table 6. Multiple regression analysis of job satisfaction and employee engagement.

Model summary				
Model	**R**	**R-square**	**Adjusted R-squared**	**Std. error of the estimate**
1	0.715[a]	0.511	0.504	0.48511
a. Predictors: (Constant), Extrinsic job satisfaction, intrinsic job satisfaction				

ANOVA[b]						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	35.126	2	17.563	74.632	0.000[a]
	Residual	33.652	143	0.235		
	Total	68.778	145			
a. Predictors: (Constant), Extrinsic job satisfaction, intrinsic job satisfaction						
b. Dependent variable: Employee engagement						

Coefficients[a]						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	0.718	0.266		2.702	0.008
	Intrinsic job satisfaction	0.629	0.085	0.523	7.405	0.000
	Extrinsic job satisfaction	0.232	0.059	0.276	3.904	0.000
a. Dependent variable: Employee engagement						

4.3. Regression Model

The multiple regression analysis reveals a strong predictive link between intrinsic job satisfaction, extrinsic job satisfaction, and employee engagement, with an R^2 value of 0.511, indicating that approximately 51.1% of the variation in employee engagement is explained by these two forms of job satisfaction. The ANOVA results ($F_{(2, 143)}$ = 74.632, $p < 0.001$) confirm the statistical significance of the model. Both intrinsic job satisfaction (B = 0.629, $p < 0.001$) and extrinsic job satisfaction (B = 0.232, $p < 0.001$) significantly influence employee engagement, although intrinsic satisfaction has a stronger impact (Beta = 0.523) compared to extrinsic satisfaction (Beta = 0.276). These findings emphasize the importance of enhancing intrinsic job satisfaction to increase employee engagement, while extrinsic factors also contribute significantly.

5. DISCUSSION

This study explores the link between job satisfaction and employee engagement among Sudanese workers in the Kingdom of Saudi Arabia (KSA), using multiple regression analysis to reveal the predictive role of intrinsic and extrinsic job satisfaction. The model's R² value of 0.511 indicates that 51.1% of the variance in employee engagement can be explained by both types of job satisfaction. This high R² suggests that job satisfaction, both intrinsic and extrinsic, is a key factor in employee engagement, aligning with Bakotić's (2016) findings that job satisfaction fosters emotional attachment, which in turn enhances engagement.

The results indicate that intrinsic job satisfaction is a stronger predictor of employee engagement than extrinsic satisfaction. The coefficients reveal a larger effect of intrinsic job satisfaction (B = 0.629, Beta = 0.523, p < 0.001) compared to extrinsic satisfaction (B = 0.232, Beta = 0.276, p < 0.001). This aligns with Christian et al. (2011), who found that job satisfaction strongly predicts employee engagement. Similarly, SAlbrecht et al. (2015) emphasized that employees who are satisfied with their jobs are more likely to engage in proactive behaviors, thereby improving organizational performance. These findings highlight the significance of personal meaning and fulfillment in the workplace for achieving higher engagement. While extrinsic factors such as pay and benefits contribute to engagement, their influence is not as strong as that of intrinsic factors.

The significant correlation between intrinsic job satisfaction and employee engagement (r = 0.677) further supports that employees who find personal fulfillment in their work are more emotionally invested in their roles. This aligns with Bailey et al. (2017), who claimed that intrinsic motivation, driven by job satisfaction, is critical for sustaining engagement. Key intrinsic rewards, such as personal growth and a sense of achievement, are primary drivers of engagement. Conversely, extrinsic job satisfaction linked to factors like salary and working conditions also shows a positive but weaker correlation with engagement (r = 0.568). This underscores the need to prioritize intrinsic factors while recognizing the supportive role of extrinsic rewards.

The ANOVA results (F (2, 143) = 74.632, p < 0.001) confirm the statistical significance of the regression model, reinforcing that both intrinsic and extrinsic job satisfaction are reliable predictors of employee engagement. These findings are consistent with previous studies by Harter et al. (2003) and Judge et al. (2017), which emphasized the critical role of job satisfaction in engagement. Bakker and Demerouti (2017) similarly stressed that both intrinsic and extrinsic aspects contribute significantly to employee engagement.

Additionally, the results align with Bipp and Kleingeld (2011), who confirmed that job satisfaction reduces turnover intentions, thereby stabilizing the workforce and promoting long-term organizational success.

6. CONCLUSION

The study concluded that job satisfaction is a crucial factor in enhancing employee engagement, with higher levels of satisfaction being associated with increased engagement. The statistical significance of this relationship indicates that job satisfaction is a significant part of the variance in employee engagement. Extrinsic factors, such as salary and job security, and intrinsic factors, such as appreciation and meaningful work, are significant contributors to engagement. However, the research highlights that intrinsic factors have a greater impact on engagement among Sudanese employees, indicating the importance of these elements in promoting commitment and enthusiasm. The study suggests that employers in Saudi Arabia employ culturally sensitive management practices to meet the specific requirements and preferences of Sudanese workers. By enhancing job satisfaction through competitive compensation, a supportive work environment, and growth opportunities, organizations can increase employee engagement, reduce turnover, and improve overall performance. Understanding the unique drivers of job satisfaction and engagement within a diverse workforce is critical to an organization's success.

Furthermore, the study indicates that higher job satisfaction leads to greater employee engagement, which is reflected in increased commitment, enthusiasm, and a stronger willingness to contribute to the organization's success. This positive relationship is influenced by cultural and social factors related to Sudanese expatriates, who are

particularly concerned with job security, community support, and respect for the workplace. The study also shows that employees who feel valued and recognized are more likely to engage.

The experience of working abroad and adapting to different cultural preferences can also contribute to the impact of job satisfaction on engagement. The study suggests that employers in Saudi Arabia should focus on factors such as competitive pay, a supportive work environment, fair treatment, and opportunities for professional development. Focusing on these areas can lead to improved job satisfaction and engagement, resulting in better performance and reduced turnover.

However, the study has some limitations. First, it focuses solely on Sudanese workers in Saudi Arabia, which limits the generalization of the results to other expatriate groups or regions. Second, the study relies on survey data, which may introduce bias, and does not consider potential moderating factors such as organizational culture or leadership style that may influence the relationship between job satisfaction and engagement. To address these limitations, future research could expand its scope by incorporating a larger group of expatriate workers from different countries and regions. Longitudinal studies could also investigate the causal relationship between employee job satisfaction and engagement over time. Additionally, using multiple data collection methods, such as interviews or observational studies, could provide more insights. Future studies should also examine moderating factors such as organizational culture, leadership style, and work environment to better understand how these elements shape the relationship between employee job satisfaction and engagement in different contexts.

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