



The effect of Transformational Leadership on Job Involvement With Emotional Intelligence as a mediator among supervisory positions at the National Company for Civil Engineering and Construction (GCB), Hassi R'Mel Agency.

أثر القيادة التحويلية الاستغراق الوظيفي بوجود الذكاء العاطفي كوسيط لدى شاغلي الوظائف الإشرافية بالشركة الوطنية للهندسة المدنية والبناء (GCB) وكالة حاسي الرمل.

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Abstract

This study aims to find the causal effect of perceived transformational leadership on job involvement through the mediating role of leader's emotional intelligence among Supervisory Positions at the National Company for Civil Engineering and Construction (GCB), Hassi R'Mel Agency. To verify the hypotheses, a questionnaire was used as a data collection tool, with a sample size of 62. An individual holding supervisory positions At the National Company for Civil Engineering and Construction (GCB), Hassi R'Mel Agency Laghouat Data were processed by using SEM with Smart PLS 3 to examine the constructed hypotheses. The most important result reveals that The variable of emotional intelligence does not have a mediating effect on the relationship between transformational leadership and job involvement within the National Company for Civil Engineering and Construction (GCB), Hassi R'Mel Agency, according to the perceptions of occupants in supervisory positions. .

JEL Classification Codes : M12 ; M15 ; D23

Keywords

Transformational Leadership (TL ; Job Involvement(JI); Emotional Intelligence (EI); structural equation modelling (SEM).

الكلمات المفتاحية

تهدف هذه الدراسة إلى إيجاد أثر القيادة التحويلية على الاستغراق الوظيفي بوجود الذكاء العاطفي كوسيط لدى شاغلي الوظائف الإشرافية بالشركة الوطنية للهندسة المدنية والبناء وكالة حاسي الرمل، تم استخدام استبانة كأداة لجمع البيانات، حيث بلغ حجم العينة 62 فردا يشغلون مناصب إشرافية، تمت معالجة بيانات الشركة الوطنية للهندسة المدنية والبناء (GCB) وكالة حاسي الرمل الأغواط باستخدام Smart PLS 3 ، وكانت أهم النتائج أن متغير الذكاء العاطفي ليس له تأثير وسيط في العلاقة بين القيادة التحويلية والاستغراق الوظيفي داخل الشركة الوطنية للهندسة المدنية والبناء وكالة حاسي الرمل، حسب تصورات كل من شاغلي الوظائف الإشرافية .

تصنيف JEL : D23 ؛ M15 ؛ M12

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INTRODUCTION:

In the modern organizations, the importance of leadership has grown ,compared to past. Nowadays the role of a leader has become very challenging in different ways (Ogbonna, 2000),Many studies have found that the most important leadership style for transforming organizations by influencing employee behavior is transformational leadership.

Transformational leadership is essential to effectively inspire employees to gain their trust to involve them in shaping the organization's vision and implement decisions, and achieving objectives, they must demonstrate a range of skills. Incorporating abilities, like communication and emotional intelligence a transformative leader can express the company vision and objectives clearly trust through transparent communication and engage employees in decision-making. This not improves communication. It also bolsters the leaders capacity to accomplish their goals.

A crucial skill, for any leader to have, is emotional intelligence, which involves being able to recognize and regulate one's feelings and those of others and use them effectively to encourage teamwork., As well as the emotions of others, and manage them effectively, thereby facilitating collaboration among them.

These skills and behaviors also enhance employees' job involvement to increase their love for work and connection with the organization, and job involvement is one of the most important issues that makes the employee motivated.

Transformational leadership, a style known for inspiring and motivating followers to achieve beyond their expected capabilities, is hypothesized to significantly influence job involvement. Moreover, emotional intelligence, a trait often associated with effective leadership, is proposed to mediate the relationship between transformational leadership and job involvement. This study aims to shed light on the intricate connections between these variables and offer insights that can inform leadership practices within the specific context of GCB's Hassi R'Mel Agency.

The National Company for Civil Engineering and Construction (GCB), located in Hassi R'Mel Agency, operates in a dynamic and challenging environment where effective leadership is essential for success. Understanding the relationship between transformational leadership, job involvement, and emotional intelligence among supervisory positions within this organization is therefore paramount.

I.1Statement of the Problem:

whether transformational leadership effect on job involvement through the mediating role of leader's emotional intelligence among Supervisory Positions at the National Company for Civil Engineering and Construction (GCB), Hassi R'Mel Agency.laghoaut?

I.2Research Questions:

- Do leaders practice the dimensions of transformational leadership in the National Construction Agency?
- What is the relationship between transformational leadership and job involvement among supervisory positions at GCB?

- What is the extent of emotional intelligence among leaders?
- How does emotional intelligence mediate the relationship between transformational leadership and job involvement?
- What implications do these findings have for leadership practices and employee engagement in the civil engineering and construction sector?

I.3Study hypotheses:

- **First hypothesis (H1):** There is a direct effect of statistical significance at the significance level (0.05) for transformational leadership - on the job involvement of the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, according to the opinions of the supervisory job holders.
- **The second hypothesis (H2):** There is a direct effect of statistical significance at the significance level (0.05) of transformational leadership - on the emotional intelligence of the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, according to the opinions of supervisory positions.
- **The third hypothesis (H3):** There is no direct effect of statistical significance at the significance level (0.05) of emotional intelligence on the job involvement of the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, according to the opinions of supervisory job holders.
- **Fourth Hypothesis (H4):** There is an indirect, statistically significant effect at the significance level (0.05) of transformational leadership on job involvement through emotional intelligence at the National Company for Civil Engineering and Construction GCB, Hassi Rmel Agency, according to the opinions of supervisory job holders.

I.4Methodology:

This study uses the descriptive approach, as it describes the variables associated with the study and the characteristics of the sample members. Also modeling structural equations according to the method of partial least squares (SEM-PLS) ((PARTIAL LEAST SQUARES)). One of the advantages of the method is that its results are accurate and does not require a normal distribution of data. The respondents' answers towards the study variables as it corresponds towards achieving the goal of the study, which is to know the extent of the ability of independent variables (transformational leadership) To interpret and explain the dependent variable (job involvement) through the mediating variable (emotional intelligence).

I.5Significance of the Study:

The significance of this study lies in its focus on the variables of transformational leadership, job involvement, and emotional intelligence, and their interrelationships as either dependent or independent variables. This study is a significant contribution as it is one of the first to examine the influence of transformational leadership on job involvement while also considering the role of emotional intelligence.

Therefore, The current study. aims to contribute to enrich knowledge . It will also help leaders and officials in the National Construction Agency pay attention to the transformational leadership

method and work to enhance employees' feelings of job absorption and acquire emotional intelligence skills. This study will provide opportunities for researchers to conduct further studies on variables in other organizations.

II. THEORETICAL FRAMEWORK :

II.1. Transformational Leadership:

In (1973) Downton proposed a theory of transactional, charismatic, and inspirational leadership in the context of a rebel political leader (Antonakis, & Day &, 2012). but the result of his study was not well known amongst the researchers community, after that, political scientist James McGregor Burns (1978) (Stewart, , 2006) in his descriptive research on political leaders. However, it is now commonly used in psychological studies (Bass & Riggio, 2006).

Bass (1985) developed the theory of transformational leadership, applied it to all organizational fields. and he defined it as « the transformational leader attempts to elevate the needs of the follower in line with the leader's own goals and objectives ». (Bass , Avolio,, Waldman, D, & A., & Bebb, M., 1987), According to Bass, transformational leadership is an ongoing process in which a leader and follower mutually support each other to achieve higher morals and motivation. This type of leadership has the potential to bring about significant changes in the lives of individuals and organizations (Mandell & Pherwani , 2003).

(Bass & Avolio , 1992) introduced four dimensions of transformational leadership. and they called it "the four I":

- **Idealized Influence:** The transformational leader exerts idealized influence by serving as a role model for their followers.
- **Inspirational Motivation:** Injecting inspirational motivation among their followers by providing meaning and challenge to their work is a crucial aspect of effective leadership.
- **Intellectual Stimulation:** inspire their followers to be creative and innovative by re-framing problems, challenging assumptions, and approaching familiar challenges in new and innovative ways.
- **Individualized Consideration:** A transformational leader acts as a coach and mentor, providing individual attention to each follower.

II.2 Job Involvement:

(Argyris , 1957) saw job involvement as a means of aiding of creating work situations in which there would be better integration of individual and organisational goals.

According to Kanungo (1982), job involvement is a cognitive or belief state of strong emotional attachment and commitment to one's job (Kanungo , 1982).

As for (Brown , 1996), he argues that job involvement will be highest when the work environment makes one believe that their work is meaningful. ; offers control over how work is accomplished; makes feedback concerning completed work available; and provides supportive relations with supervisors and co-workers . Many theorists have hypothesized that employees who are highly involved in their work are more likely to put forth substantial effort towards achieving organizational objectives and are less likely to leave their jobs.

Marcson presented an argument and findings suggesting that one of the best ways to increase productivity in organisations was to provide employees with jobs that are more demanding and challenging (Hall & Lawler, 2000).

II .3 Emotional Intelligence

The term emotional intelligence was first coined in 1990 by researchers John Mayer and Peter Salovey, And they find that having emotional intelligence For leaders, is essential for success (Mayer , Salovey , & Caruso , 2008).

but was later popularized by psychologist Daniel Goleman Where he defined Emotional intelligence as the ability to understand and manage your emotions, as well as recognize and influence the emotions of those around you (Lauren , 2019).

Goleman breaks down EI into five components, The five components of emotional intelligence in the workplace:

- **Self-awareness:** Self-awareness is the ability to recognise and understand your own thoughts, feelings, and emotions, which can all affect your interactions with others.
- **Self-regulation:** An emotionally charged environment is usually fraught with unresolved conflict. It feels tense and distracting.
- **Motivation:** Goleman’s third component refers to motivation for enjoyment, rather than money or a promotion. There are different types of motivation, such as intrinsic motivation, which comes from within oneself and is driven by personal interest and enjoyment, and extrinsic motivation, which comes from external factors such as rewards or incentives.
- **Empathy:** If the leader can understand the emotions of others and relate to them, he can see problems from all perspectives and make objective decisions. Empathy defuses bias.
- **Social skills:** It’s important to build a strong rapport with your team.

Not only is it part of good leadership, but it’s also essential to boosting staff productivity and increasing loyalty (Channell, 2021).

III.METHOD AND PROCEDURES:

III.1Study tool and conceptual model for research:

The theoretical framework of this study is built upon understanding the impact of transformational leadership on job involvement in the presence of emotional intelligence among the supervisory job holders working in the National Company for Civil Engineering and Construction GCB, Hassi Rmel Agency. Drawing from theoretical frameworks and a review of previous studies, a questionnaire was

adopted as the measurement tool to assess and evaluate the variables. Data collection was conducted through the formulation of a set of statements measured on a 5-point Likert scale . The questionnaire comprises two parts: the first part pertains to the personal data of the study sample, while the second part consists of three main axes:

The first axis: transformation leadership, and it consists of (19) phrases spread over four dimensions, and these dimensions represent the independent variable, which are:

Dimension 01: Idealized Influence Charisma

Dimension 02: individualized consideration

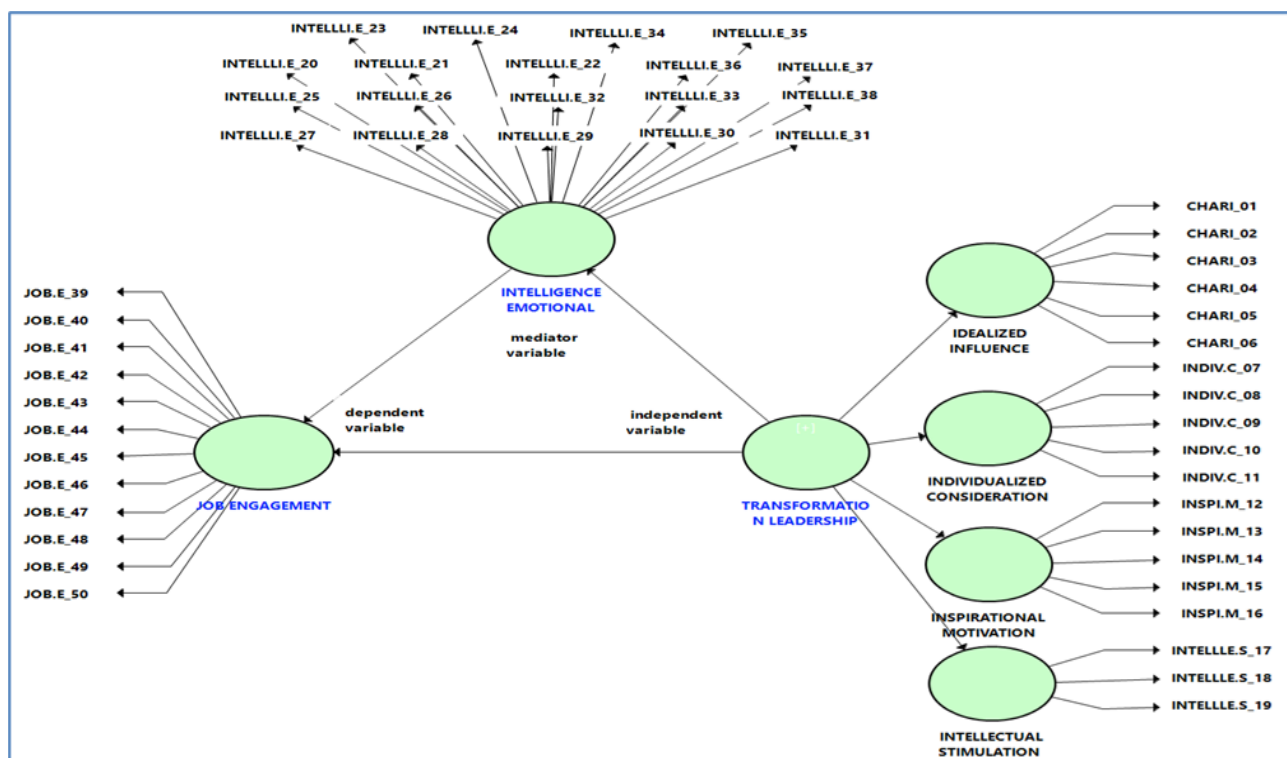
Dimension 03: inspirational motivation

Dimension 04: intellectual stimulation.

As for the second axis: Emotional intelligence, it consists of (19) phrases, in order to measure the mediator variable.

As for the third axis: job involvement , which consists of (12) phrases, in order to measure the dependent variable.

Figure N°01: Conceptual model of the study



Source: SMART PLS V3 program outputs

The above figure shows the general model of the study which consists of two sections:

1.The structural model, also called the internal model, presents the relationships (paths) between the latent variables .

2.Measurement model, which is referred to as outer model, where it presents the relationships between the latent variables and a set of indicators that represent the rectangles are presented in the model. For example, the indicators (CHARI_01 to CHARI_06) ,They are indicators used in the latent variable measurement model (Idealized influence).

The structural model presents the relationships between the latent variables that we will examine, i.e. estimating direct and indirect effects, where:

III.2Studying the Indirect Effect Relationships between the Variables:

Emotional intelligence has a mediating effect on the relationship between transformational leadership and job Involvement (Is emotional intelligence mediating the relationship between transformational leadership and job Involvement in the organization under study?), This relationship indicates that changes in transformational leadership lead to changes in the mediating variable (emotional intelligence), which in turn results in changes in job involvement.

Type of Data Distributions of the respondents and the determination of the statistical methods used:

The test relied on The Kolmogorov-Smirnov(KS) test, to determine whether the respondents' data about the research variables follow / or not / the normal distribution, and the form of statistical hypotheses in the case of revealing the moderation of the probability distribution of the data we formulate it as follows:

The null hypothesis (H0): Sample data about research variables drawn from a population whose data follows a normal distribution.

Alternative hypothesis (H1):The sample data towards the study variables are drawn from a population whose data does not follows a normal distribution,

The general rule in the case of revealing the moderation of the probability distribution of the data i.e. determining the type of distribution of the respondents' data towards the research variables is: If the error probability value (sig) is less than 0.05, we reject the null rejection (H0) and accept the **alternative rejection (H1):** do not follow data normal distribution.

Table N°01: presents the results Tests of Normality

One-Sample Kolmogorov Smirnov Test				
result	Sig	K-S-	N	Study variables
The distribution is non-normal	0.017	0.125	62	(T.L) (independent variable)
The distribution is non-normal	0.017	0.125	62	(E.I) (mediator variable)
	0.017	0.125	62	(J.I)

The distribution is non-normal				(dependent variable)
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Source: Based on the outputs of SPSS Version 26 program.

The above results show that the probability value (Sig) is less than the significance level (0.05), and therefore we reject the null rejection (H0) and accept the alternative rejection (H1): that is, do not follow the normal distribution data. This indicates that the sample data towards the research variables are drawn from a population whose data do not follow a normal distribution, and this justifies our use of (SEM-PLS) modeling, which does not require a normal distribution of the data, in addition to the use of descriptive statistical methods such as frequency, percentage, arithmetic mean and standard deviation to describe opinions and trends.

Respondents toward the questionnaire's statements and variables. One of the statistical programs used in the research is the SPSS program. V26, Moreover, the program SMART PLS V3 was utilized.

Descriptive analysis of the attitudes and opinions of the study sample individuals towards the research variables:

In this part, the respondents' opinions and responses to the research variables will be presented and analyzed, as well as the phrases (indicators) that were developed to measure each variable through the statistical values of the measures of central tendency (arithmetic mean) and measures of dispersion (standard deviation) as shown in the following tables:

Table N° 02: Results of the analysis of the sample individuals' responses and opinions towards the research variables.

The general direction of the respondents	ترتيب البعد	Descriptive analysis			Dimension	N
		Relative (%) weight	(δ) Std. Deviation	($\bar{x}$) Mean		
To a very high degree	01	86.72	0.45317	4.3360	Dimension 01: Charisma (Influence of Role Models)	01
very high	03	80.52	0.66430	4.0258	"Dimension 02: Individual Emotional Care"	02
very high	02	82.97	0.61344	4.1484	Dimension 03: Motivation "and Inspiration	03
very high	04	78.92	0.91972	3.9462	"Dimension 04: Creative "Encouragement	04
very high		82.87	0.47432	4.1435	Independent Variable: Transformational Leadership	
very high		82.22	0.49904	4.1112	Mediating Variable: Emotional Intelligence	

very high	83.01	0.51144	4.1505	Dependent Variable: Job Involvement	
5/ (100* mean) = (%) Relative weight of the arithmetic mean					
5 to 4.21 from	to 3.41 from 4.20	to 2.61 from 3.40	2.60 to 1.81 from	to 01 from 1.80	Mean field
Very high degree	High degree	Moderate degree	Low degree	Very low degree	Agreement level

Source: Based on the outputs of SPSS Version 26 program.

The table above presents the results of calculating the values of the arithmetic mean (Mean), the standard deviation (Std. Deviation), and the importance of the arithmetic mean, for the opinions and trends of the sample members regarding the levels of availability of variables. My total calculation of the transformational leadership variable amounted to: 4.1435, i.e. with a high degree of availability at a rate of 82.87%. In terms of the order of availability of transformational leadership dimensions, we find **dimension variable 01:** charisma ranked as 01 with an arithmetic average of 4.3360 and a very high degree of availability, followed by **dimension 02:** Motivation and Inspiration , as it ranked second in terms of its importance to the respondents in the institutions under study, followed by **dimension 03:** Individual Emotional Care feelings in the third place, followed by **dimension 04:** creative encouragement.

As for the levels of availability of the variable Emotional Intelligence at the National Company for Civil Engineering and Construction GCB, Hassi Rmel Agency under study, where we find that the total arithmetic mean of the variable amounted to: 4.1112, i.e. with a high degree of availability, at a rate of 82.22%.

As for the levels of availability of the variable job involvement in the National Company for Civil Engineering and Construction GCB Agency of Hassi Rmel under study, where we find that the total arithmetic average of the variable amounted to: 4.1505, i.e. with a high degree of availability, at a rate of 83.01.1%.

III.3.Research model and Test hypotheses

When using (SEM-PLS) modeling, the practical procedures according to this modeling start with specifying the model specifications for the structural model and measurement models , followed by estimating the model for its evaluation, and this is run by running the PLS-SEM algorithm through the SmartPls3 program, we get outputs Represented in the criteria for evaluating reliability and credibility measurement models as well as (R2, .F2, VIF) values for evaluating the structural model and to find out the statistical significance of the path parameters, we use the Bootstrapping technique and its outputs are T and P values and the path parameter values. To determine the predictive ability of the research model we use the technique Blindfolding and its Q2 values.

Determining the specifications of the research model according to (SEM-PLS) modeling:

According to (SEM-PLS) modeling, the first step is to prepare a research model that explains the research hypotheses and displays the relationships between the variables. The model was drawn using the SmartPls3 program as shown in the above figure.

Evaluation of the search model according to (SEM-PLS) modeling:

After creating the model, the focus is in the next step on evaluating the quality of the results. The model is evaluated by (SEM-PLS): through two stages in order,

First: Evaluation of the Measurement Models: Evaluation of the model includes a measurement:

- Convergent validity evaluation by individual indicator reliability and average variance extracted (AVE).
- Discriminant Validity Assessment through The Fornell-Larker criterion, cross-loadings criterion, and also the HTMT criterion can be used to check the differential validity of the variables. The heterotrait-monotrait (HTMT) ratio of correlations can be used to examine discriminant validity.
- Assessment of Internal Consistency Reliability using Cronbach's alpha and composite reliability criterion. And through the smart pls program, we summarize the evaluation results for each criterion in the following table:

Table N°03: Summary of results of standard model evaluation criteria for the research.

Latent Variable	Indicators	Convergent validity				Discriminant Validity	Internal Consistency Reliability	
		Outer Loadings		(AVE) average variance extracted		HTMT confidence interval does not include 1	Cronbach's alpha (أكبر من 0.7)	composite reliability (أكبر من 0.7)
				Before deletion	Deleted			
IDEALIZED INFLUENCE	CHARI_01	0.374	delete	0.351 unacceptable (أقل من 0.5)	0.511	Yes it does not include 1	0.721	0.764
	CHARI_02	0.579	delete					
	CHARI_03	0.615	keep					
	CHARI_04	0.630	keep					
	CHARI_05	0.618	keep					
	CHARI_06	0.688	keep					
INDIVIDUALIZED CONSIDERATION	INDIV.C_07	0.744	keep	0.424 unacceptable (أقل من 0.5)	0.516	Yes it does not include 1	0.762	0.800
	INDIV.C_08	0.352	delete					
	INDIV.C_09	0.444	keep					
	INDIV.C_10	0.773	keep					
	INDIV.C_11	0.805	keep					
INSPIRATIONAL MOTIVATION	INSPLM_12	0.614	keep	0.530 acceptable (أكبر من 0.5)	0.530	Yes it does not include 1	0.773	0.847
	INSPLM_13	0.819	keep					
	INSPLM_14	0.645	keep					
	INSPLM_15	0.829	keep					
	INSPLM_16	0.708	keep					
INTELLECTUAL STIMULATION	INTELLLE.S_17	0.861	keep	0.791 acceptable (أكبر من 0.5)	0.791	Yes it does not include 1	0.868	0.919
	INTELLLE.S_18	0.918	keep					
	INTELLLE.S_19	0.889	keep					
TRANSFORMATIONAL LEADERSHIP						Yes it does not include 1	0.854	0.880
INTELLIGENCE EMOTIONAL	INTELLLE_20	0.170	delete	0.312	0.510	Yes it does not include 1	0.828	0.886
	INTELLLE_21	0.576	keep	unacceptabl				

	INTELLIE_22	0.523	delete	e (أقل من 0.5)				
	INTELLIE_23	0.545	delete					
	INTELLIE_24	0.535	delete					
	INTELLIE_25	0.513	delete					
	INTELLIE_26	0.517	delete					
	INTELLIE_27	0.325	delete					
	INTELLIE_28	0.358	Delete					
	INTELLIE_29	0.593	Keep					
	INTELLIE_30	0.667	Keep					
	INTELLIE_31	0.577	delete					
	INTELLIE_32	0.670	keep					
	INTELLIE_33	0.513	delete					
	INTELLIE_34	0.668	keep					
	INTELLIE_35	0.585	keep					
	INTELLIE_36	0.616	keep					
	INTELLIE_37	0.733	keep					
	INTELLIE_38	0.638	keep					
INTELLIGENCE EMOTIONAL	JOB.E_39	0.373	delete	0.319 unacceptabl e (أقل من 0.5)	0.540	Yes it does not include 1	0.798	0.856
	JOB.E_40	0.376	delete					
	JOB.E_41	0.633	keep					
	JOB.E_42	0.503	delete					
	JOB.E_43	0.524	keep					
	JOB.E_44	0.663	keep					
	JOB.E_45	0.739	keep					
	JOB.E_46	0.349	delete					
	JOB.E_47	0.436	delete					
	JOB.E_48	0.765	keep					
	JOB.E_49	0.635	keep					
	JOB.E_50	0.376	delete					

Source: SMART PLS V3 program outputs

- **Convergent validity:** Looking at the results of the above table, we find that most of the indicators have external loading values greater than the threshold of 0.7, except for some indicators whose external load values and their variables are less than 0.4 are omitted from the model, namely (CHARI_01=0.374/ INDIV.C_08=0.352/ INTELLIE_20= 0.170/ JOB.E_39=0.373/ JOB.E_40=0.376/ JOB.E_46=0.349/ JOB.E_50=0.376).

As for the values of Outer Loadings with their variables with values greater than 0.4 and less than 0.7, we take into account, in deleting them, their impact on increasing the AVE value for variables that must be greater than 0.5. For example, we note that the values of =AVE0.351 for the IDEALIZED INFLUENCE variable It is less than the threshold (0.5) and therefore this value must be raised by deleting the index (0.374CHARI_01=), (CHARI_02=0.579), where by re-evaluating

the AVE reaches a value of (0.511) and the same procedure with the rest of the variables until the AVE value rises above (0.500). for each variable. Finally, we conclude that all the variables with their indicators (statements) have high levels of convergent validity. Which

indicates that the respondents' data towards the model variables are appropriate for subsequent statistical analyses.

- **Discriminant Validity:** It means the extent to which the variable is actually distinct from the other variable. To assess the differential validity, three criteria are used to calculate the extent to which the variables inherent in the model have differential validity, namely: **The first Standard 1:** Cross Loadings; **Standard 2:** Fornell-Larker; **Third Standard3:** HTMT Standard. In our study, we will depend on (HTMT) and set the criterion threshold with a value of (0.90), in other words, any (HTMT) statistic with a value greater than 0.90 indicates the absence of differential validity for the variables. Also, through the 95-level confidence interval in which the HTMT value is located, the range should not include a value of 1 . Looking at the results of the above table, we find the value of the confidence intervals for the minimum and upper bound of HTMT for the correlation between IDEALIZED INFLUENCE and the rest of the variables is [0.695 - 0.942] and the latter does not include a value of 1, and the IDEALIZED INFLUENCE variable is actually distinct from the rest of the variables in the model, which achieves the characteristic of differential validity and the same Comparison with the rest of the model variables.
- **Internal Consistency Reliability:** The above table displays the values of the Composite Reliability criterion (CR) for the variables, which are greater than the threshold (greater than 0.7), and confined between the lowest value (0.764) to the highest value (0.919), as The Cronbach's alpha coefficient values for each variable also exceeded the threshold (greater than 0.7), and therefore all variables have high levels of internal consistency reliability, and it can be relied upon in evaluating the structural model and testing the study hypotheses.

Summary of Evaluation of Measurement Models: Through the use of criteria for evaluating measurement models, the results of evaluation and after making some modifications to them by deleting some indicators (phrases) and as it was noted, all evaluation criteria above the threshold have been met. This supports the reliability and credibility (convergence and differentiation) of the variables and indicators included in the model. And it is valid for evaluating the structural model and testing the hypotheses of the study.

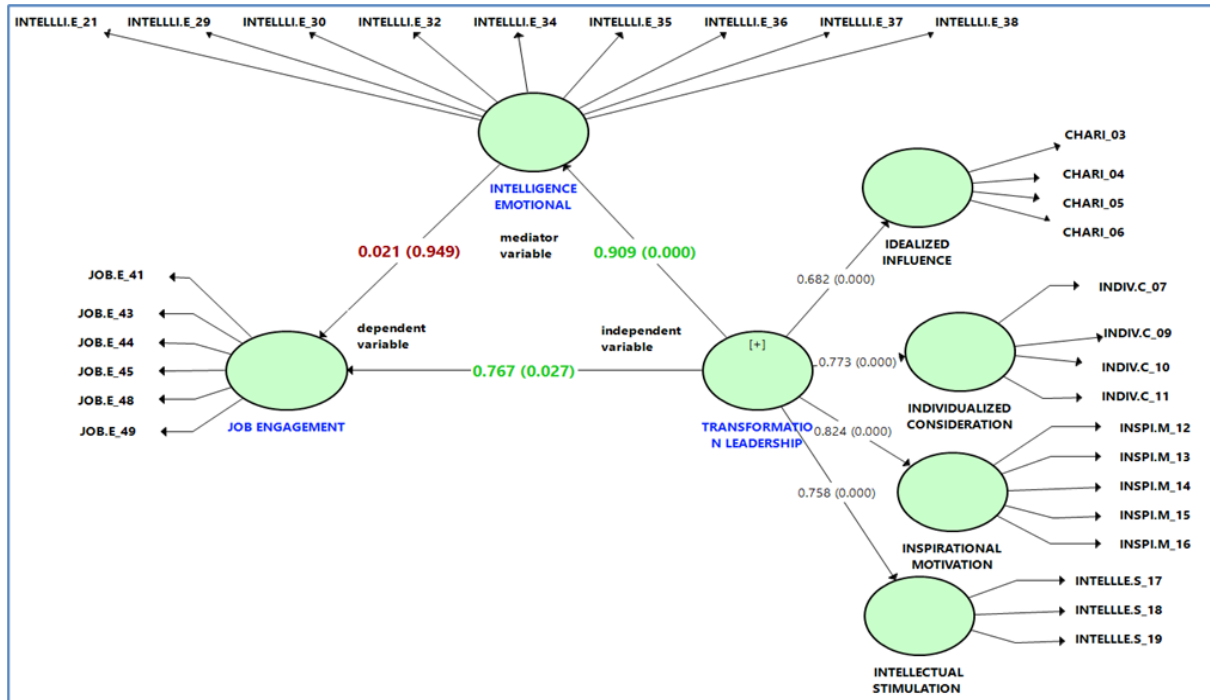
Second: Evaluate the structural model:

After we ascertained that the measurement models of the study model have credibility (convergence and differentiation) and reliability, the next step is to evaluate the results of the structural model, and this is by studying the predictive capabilities of the model and the relationships between variables, that is, the extent to which the independent variable is able to predict the dependent and the extent to which the mediating variable mediates the relationship between The independent variable and the dependent variable,

by relying on a set of criteria Coefficient of determination (R^2), (f^2) effect size, Predictive relevance (Q^2), statistical significance of the path coefficients and diagnosing the problem of linear interference between independent variables through the VIF criterion This is by running Bootstrapping technology, in the SMART PLS program.

The results of evaluating the structural model are presented as follows:

Figure N°02: shows the results of the structural model evaluation



Source: Based on the outputs of the SMART PLS.V3 program.

Assessing the linear interaction between the variables in the structural model of the study: before moving on to assessing the statistical significance of the coefficients of influence relationships between the independent variables (transformational leadership) and the dependent variable (job involvement) and the mediating variable (emotional intelligence), it is necessary to examine the extent The model is free from the problem of linear interference between independent variables, where coefficients may be biased if the estimate contains critical levels of linear overlap between independent variables. indicated in the table below:

Table N°04: Examination of the problem of linear interference between the independent variable and the dependent variable.

Transformation leadership	Dimension04 Intellectual stimulation	Dimension03 : inspirational motivation	Dimension 02: individualized consideration	Dimension :01 idealized influence	
قيم VIF					
1.535	3.514	2.787	2.134	1.539	job involvement

Source: Based on the outputs of the SMART PLS.V3 program

We note that all VIF values are smaller than 5, and therefore, collinearity between the independent variable and the dependent variable does not constitute a problem in evaluating the structural model.

-Evaluation of coefficient of determination R² (interpretation), effect size f², predictive fit Q².

Table N°05: showing the evaluation of (R², f², Q²) in the study model

Q ² Predictive relevance		f ² Effect size		R ² Coefficient of determination		المتغير	علاقة التأثير	المتغير
"Confirmed"	0.250	Medium	0.275	Medium	0.616	job involvement	← together	Transformation leadership
		Non-existent	0.00					Emotional Intelligence
"Confirmed"	0.342	High	4.773	High	0.827	emotional Intelligence	←	Transformation leadership

Source: Based on the outputs of the SMART PLS.V3 program

For the predictive relevance of the model: that is, the extent to which the model is able to predict the dependent variable. Looking at the above table, we find a value of (0.250 = Q²), which is positive, and this indicates that the variables (Transformational Leadership, job involvement, Emotional Intelligence), The transformational leadership and emotional intelligence can be relied upon to predict job involvement at the National Company for Civil Engineering and Construction (GCB), Hassi R'Mel Agency, according to the perceptions of occupants in supervisory positions at the company under study.

We also find a value (0.342=Q²) and positive, meaning greater than 0, This indicates that the transformational leadership variable has suitability or predictive capability for the emotional intelligence variable, At the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, according to the perceptions of occupants in supervisory positions at the company under study.

To interpret the values of the determination coefficient R²: Transformational leadership and emotional intelligence together explain 61.60% a percentage of the variance in job involvement at the National Company for Civil Engineering and Construction GCB Hassi R'Mel Agency, according to the perceptions of occupants in supervisory positions at the company under study, and this is according to the opinions of the supervisory positions in the company The place of study. It is an average value because it is within the range (R² is greater than 0.50 and less than 0.75). And transformational leadership explains 82.70% of the changes that occur in the emotional intelligence variable at the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, and this is according to the opinions of

the supervisory positions in the company under study. It is a high value because it is within the range (R^2 is greater than 0.75).

Looking at the effect size (f^2) values: we find that the value of ($f^2 = 0.275$) shows the size of the effect of the transformational leadership variable on job involvement when the emotional intelligence variable is fixed, as we consider this a medium effect because it is within the range of ($0.35 > F^2 \geq 0.15$). And the effect size is nil ($f^2 = 0.00$) for emotional intelligence when the transformational leadership variable is installed, because it is within the domain (F^2 is less than 0.02). And a high effect size ($f^2 = 4.773$) for transformational leadership on emotional intelligence, because it is within a domain (F^2 is greater than 0.35).

Evaluating the statistical significance of path coefficients in the structural model of the research and testing hypotheses:

To estimate the statistical significance of the path coefficients for relationships in the structural model of research and hypothesis testing, it can be based on T values and compare them with the critical value $T = 1.96$ at 0.05 or the probability error value (P Values) and compare them at the significance level 0.05. The following table presents a summary of the estimates of the path coefficients, T values and values P, As shown in the following table:

Table N°06: Evaluation of the statistical significance of paths for relationships in the research model and hypothesis testing.

decision	Statistical significance? ($p < 0.05$)	P Values	T	Path Coefficients	Influence relationships between variables	Type of Effect
There is a statistically significant direct effect	نعم	0.027	2.209	0.767	(JI) ← (TL)	Direct Effect
There is a statistically significant direct effect	نعم	0.000	35.830	0.909	(EI) ← (TL)	
There is no statistically significant direct effect	لا	0.949	0.065	0.021	(JI) ← (EI)	
There is no s.s.d effect	لا	0.949	0.064	0.019	(JI) ← (EI) ← (TL)	Indirect Effect

Source: Based on the outputs of the SMART PLS.V3 program

The table above presents a summary of the path coefficient estimates for the direct and indirect influence relationships, the calculated T values and the (P Values) to estimate the statistical significance of the path coefficients by comparing the calculated T values with the critical value $T = 1.96$ at 0.05 when the calculated T value is greater than The critical value, $T = 1.96$, we conclude that the path coefficient is statistically significant and the (P-Values) values can also be used to infer

the statistical significance of the path coefficient where if the value of (P-Values) is less than the significance level (0.05), then the path coefficient is significant Statistic.

Testing the statistical significance of the direct effect relationship (H1 / H2 / H3 hypothesis test):

As for the statistical significance of the Path coefficient (0.767 = 0.767 for the direct impact relationship between transformational leadership → job involvement, we find the calculated value ($T = 2.209$) is greater than the critical value ($T = 1.96$) at the significance level (0.05), and also the probabilistic value reached ($p\text{-Values}=0.027$) is less than 0.05, thus we conclude that the effect between the two variables is statistically significant. In general, these statistical results provide clear support in that the variable (Transformational leadership) has a direct, positive, and statistically significant impact on the job involvement at the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, and this is according to the opinions of the supervisory positions in the company under study. Whenever we make any change in the level of transformational leadership by increasing it by one unit, it will result in a positive change with an increase in job involvement levels by a value of (0.767) units.

and from it; We reject the null hypothesis (H0) and accept the alternative hypothesis (H1): There is a direct statistically significant effect at the significance level (0.05) of transformational leadership on the job involvement of the National Company for Civil Engineering and Construction GCB, Hassi Rmel Agency, according to the opinions of the supervisory job holders .

Regarding the statistical significance of the Path coefficient ($=0.909$) for the direct impact relationship between transformational leadership → emotional intelligence, we find that the calculated $T=35.830$ value is greater than the critical $T=1.96$ value at the significance level (0.05) and also the probabilistic value reached ($p\text{-Values}=0.000$) is less than 0.05, thus we conclude that the effect between the two variables is statistically significant. In general, these statistical results provide clear support that the variable Transformation leadership has a direct, positive, and statistically significant effect on intelligence The emotional intelligence at the National Company for Civil Engineering and Construction GCB, the Hassi R'Mel Agency, and this is according to the opinions of the supervisory positions in the company under study ; Whenever we make any change in the level of transformational leadership by increasing it by one unit, it results

in a positive change with an increase in emotional intelligence levels of (0.909) units.

We reject the null hypothesis (H0) and accept the alternative hypothesis (H1): There is a direct statistically significant effect at the significance level (0.05) of transformational leadership on the emotional intelligence of the National Company for Civil Engineering and Construction GCB, Hassi Rmel Agency, according to the opinions of the supervisory job holders .

As for the statistical significance of the Path coefficient (0.021 = for the direct impact relationship between emotional intelligence → job involvement, we find the calculated ($0.065 = T$) value is less than the critical ($1.96 = T$) value at the significance level (0.05), and also the probabilistic value

reached ($p\text{-Values}=0.949$) is greater than 0.05, and thus we conclude that the effect between the two variables is not statistically significant, meaning that the emotional intelligence variable has no direct, statistically significant effect on the job engagement of the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, and this According to the opinions of the supervisory positions in the company under study.

We reject the alternative hypothesis (H1) and accept the null hypothesis (H0): there is no direct statistically significant effect at the significance level (0.05) of emotional intelligence on the job engagement of the National Company for Civil Engineering and Construction GCB, Hassi Rmel Agency, according to the opinions of the supervisory job occupants. .

Testing the statistical significance of the indirect influence relationship (H4 hypothesis test):

As for the statistical significance of the Path coefficient ($0.019 = 0.019$ for the direct impact relationship between transformational leadership $\rightarrow$ emotional intelligence $\rightarrow$ job involvement, we find the calculated ($0.064 = T$) value is less than the critical ($T = 1.96$) value at the significance level (0.05) and also The probability value ($p\text{-Values} = 0.949$) is greater than 0.05, and thus we conclude that the indirect effect between the two variables transformational leadership $\rightarrow$ job involvement through the emotional intelligence variable is not statistically significant.

That is, the emotional intelligence variable does not have a mediating effect on the relationship between Transformational Leadership $\rightarrow$ Job involvement in the National Company for Civil Engineering and Construction GCB, Hassi R'Mel Agency, according to the opinions of the supervisory job holders.

and from him; We reject the alternative hypothesis (4H1-) and accept the null hypothesis (4H0-): there is no indirect, statistically significant effect at the significance level (0.05) of transformational leadership on job involvement through emotional intelligence at the National Company for Civil Engineering and Construction GCB Agency Hassi Ramel According to the opinions of the supervisory positions.

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