



The effect of transformational leadership on organizational learning capability - a field study in industrial companies at the wilaya of Annaba

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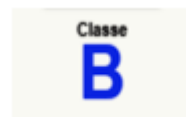
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The effect of transformational leadership on organizational learning capability - a field study in industrial companies at the wilaya of Annaba

تأثير القيادة التحويلية على قدرات التعلم التنظيمي
دراسة ميدانية على الشركات الصناعية في ولاية عنابة

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Abstract: Previous studies rarely examined the relationship between Transformational leadership and organizational learning capability. The present study is aimed at investigating the effect of transformational leadership on organizational learning capability. We assess this empirically through the responses of 125 employees from industrial companies operating in the wilaya of Annaba. Data were processed by using SEM with Smart PLS 3.0 to examine the constructed hypotheses. The result reveals that practice of transformational leadership effect all dimensions of organizational learning capability. However the most important effect on dimension experimentation, as a result of as, transformational leadership supports organizational learning capabilities through experimentation in the companies studied.

Key words: Transformational leadership; Organizational Learning; Organizational learning capability ; Smart PLS 3.0

JEL classification: L00 ; M10.; M12 ; L16 ; O30

ملخص:

نظرا لندرة الدراسات التي تبحث في العلاقة بين القيادة التحويلية وقدرة التعلم التنظيمي، تهدف الدراسة الحالية إلى التركيز على دراسة هذه العلاقة، حيث قمنا بتقييم ذلك بدراسة ميدانية عن طريق توزيع

(*) *Corresponding authors*

استبيان على العاملين والموظفين في الشركات الصناعية الناشطة في ولاية عنابة، تم استرجاع 125 استبيان صالح للمعالجة الاحصائية خضع للمعالجة باستخدام Smart PLS 3.0. وقد كشفت نتيجة الدراسة أن القيادة التحويلية تؤثر على جميع أبعاد قدرة التعلم التنظيمي، إلا أن التأثير الأكثر أهمية جاء لصالح دفع الأفراد للتجريب، ومنه ممارسة القيادة التحويلية تدعم قدرات التعلم التنظيمي عن طريق التجريب في الشركات محل الدراسة.

الكلمات الدالة: القيادة التحويلية، التعلم التنظيمي، قدرات التعلم التنظيمي، Smart PLS 3.0

تصنيف جال: L00 ؛ L16؛ M10؛ M12؛ O30

INTRODUCTION

The end of the 20th century and the beginning of the 21st century marked the importance of organizational learning . Continuous and rapid changes, rapid industrial growth and globalization have inspired new thoughts on the course of action of organizations and their structures in order to a gain competitive Given the turbulent environments that organizations work within, continuous learning is a key driver of their ability to remain adaptive and flexible – that is, to survive and effectively compete (Zagoršek, 2009) Thus, it is crucial that the capability of both individuals and organizations to learn regularly and rigorously from their work is encouraged so that they may adapt rapidly and continuously to their changing environments. (Pham, 2019)

This demands a new set of leadership skills competency. That leader is not only well capable to understand and analyze the current business needs, but also prove effective and helpful to suggest the most suitable solutions . We are talking about very practical practices, which every manager in a company must take into account in order to increase OLC (eg, experimentation, fault tolerance, interaction with the external environment, dialogue, decentralization). All of these organizational features of learning should be encouraged in companies and leaders should practice transformational leadership to maximize impact on OLC and company performance (Camps, 2011).

The literature review demonstrates that there have been many studies that indicated the positive impact of leadership on learning. But few of them examined the effect of transformational leadership on organizational learning capability, the most notable of which: (Imamoglu, Ince, Karakose,

& Gozukara, 2015; Salas-Vallina & Fernández, 2017; Obeidat & Nofal, 2018; Thahira, Tjahjono, & Susanto, 2020; Kazmi, Kanwal, Rathore, faheem, & Fatima, 2021).

For these reasons, the present study empirically investigates the relationship between transformational leadership and organizational learning capability. More specifically, it examines the influence of transformational leadership in organizational learning capability in the context of industrial companies active in the wilaya of Annaba, as it has an important industrial pole formed mainly by the complexes of SIDER - El Hadjar, ASMIDAL and FERROVIAL (former metal processing workshops), and around which revolve SME / SMI units which are active in the field of subcontracting and in the agro-industrial sector.

The basic research question is: whether transformational leadership effect organizational learning capability?

The article consists of four sections; The first section provides an overview of the concepts used in the study: Transformational leadership and organizational learning capability, it also reviews existing research on the relationship between transformational leadership and organizational learning capability in the companies, develops a theoretical model, and proposes hypotheses to be tested. The second section deals with the methodology and discusses the research instrument, research design and data collection, and measure variables. The third section presents the results pertaining to the five hypotheses tested in the study. The last section discusses results the practical implications of the study, reviews its contributions and limitations, and concludes by proposing some future research.

1. Literature review and hypothesis development

1-1 Transformational Leadership

When we speak about leadership we should note that there are several styles of leadership as Autocratic, Bureaucratic, Charismatic, Democratic, transactional leadership and Transformational leadership, and more (R., Goethals, Sorenson, & Burns, 2004) , (Kippenberger T. , 2002) , considered Transformational leadership one of the most used styles in the organization (Jyoti & Bhau, 2015), and according to (Le &

Lei, 2019) transformational leadership is the most effective leadership style.

Downton (1973) proposed a theory of transactional, charismatic, and inspirational leadership in the context of the rebel political leader (Antonakis, 2012), but the result of his study was not well known amongst the researchers community, after that, political scientist James McGregor Burns (1978), used the term of transformational leadership in his book « leadership » and he explained how can politicians influence their followers to change their attitudes, beliefs, and values to achieve a common purpose, and he said : « Transforming leaders raise their followers up through levels of morality », and he delineated two types of leadership (transactional leadership and transformational leadership) (Stewart, 2006)

Bass (1985) developed the theory of transformational leadership from political field to all organizational fields (military, economic, social, education...etc), 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, Waldman, Avolio, & Bebb, 1987), by : developing groups and organization, arouse in individual a heightened awareness to key issue, increasing the confidence of followers and gradually moving them from concerns for existence to concerns for achievement. (Bass & Avolio, 1990)

In the earliest works of (Bass B. M., 1985) on transformational leadership he defined three factors as determinants of leader behavior, namely: Charismatic, Individual consideration, Intellectual stimulation, after that (Bass & Avolio, 1990) Re-define all dimensions of transformational leadership in four factors and they called it “the four I”.

- **Idealized influence** (or charisma): the word charisma means ‘gift’ in the late Greek language and when writers began to speak about charisma or charismatic leadership they always started with Max Weber's conception who defined charisma as transcendence comportment. House (1977) reviewed the literature of charisma in attempt to make them testable in his work «A 1976 theory of charismatic leadership ». (Bass & Avolio, 1990) concluded its wrong to use the term charismatic in Leadership's field, for two reasons: First, when saying charisma, the image always comes to mind that person is flamboyant, exciting and personable. Second, in some countries the meaning of charismatic has a big relation with personalities as Mussolini, Hitler, Toj and dictatorship. Therefore,

(Bass & Avolio, 1990) chose idealized influence as an important component of transformational leadership. The principle role of leader in idealized influence is to be the model emulated by the followers and by exchange they hold him all the respect and appreciation, trying to imitate him and saturate with his qualities.

- **Intellectually stimulating:** it's a stimulate process pushing followers to foster innovation and creativity; thinking out of box to solve old problems with new ways and new methods and look at complicated situation from different angles. Encouraging creativity by leading and not criticize mistakes and put the blame on individuals in public, accepting all ideas even when they are different to their ideas.

In this situation followers will become more effective and Self-reliant in solving problems (Bass & Avolio, 1990).

- **Inspirational motivation:** the leader arouses the follower's spirit of challenge and let them participate in the future vision of the organization, and boost the level of all their followers by creating teamwork that establishes in their principles Enthusiasm and optimism.

- **Individually considerate:** in individualization consideration leader treat each follower individually by providing coaching, advice, mentoring and accompanying him or her in work. the main goal of leader is to develop the follower to be a leader in the future, by delegating them and create opportunities for them to attempt a self-actualize. Leader must diagnose their followers' needs, capability and help them grow their moral by fronting new work challenge (Bass & Avolio, 1990)

1-2 Organizational learning capability

The definition of learning in the dictionary is «the acquisition of knowledge, skill or ability». Learning is essential for individuals and organizations to keep pace with change and development. The accelerated learning is the tool to get advantage and have a result in the unpredictable and turbulent market (Graham & Kees, 1992).

In 1990 Peter M. senge published his book named «the fifth discipline, the art and practice of learning organization» his study became the compass for authors to develop this issue. According to (Senge, 1990)

learning organization as an organization where people continually expand their capacity to create the results they truly desire.

Garvin (1995) defined of learning organization” as a form of organization ,that enables the leaning of its members in such a way, that it create positively valued outcomes, such as innovation efficiency, better alignment with the environment and competitive advantage”. (Armstrong, 2003)

(Slater & Narver, 1995) Conceptualise the learning organization as the new knowledge or insights that have the potential to influence behaviour. And organizational learning is the process by which an organization learns (Chiva, Alegre, & Lapiedra, 2007)

The origin of this process comes from the acquisition of knowledge by individuals, and it evolves to create a collective knowledge, through the exchange and integration (Jerez-Gomez, J, & Valle-Cabrera, 2005)

The application of the process requires some collaboration between leaders and followers. (Dibella, Nevis, & Gould, 1996) were the first authors to coin the term “organizational learning capability” OLC, and they defined OLC as the capacity (or processes) within an organization to maintain or improve performance based on experience. This activity involves knowledge acquisition (the development or creation of skills, insights, relationships), knowledge sharing (the dissemination to others of what has been acquired by some), and knowledge utilization (integration of the learning so that it is assimilated, broadly available, and can also be generalized to new situations).

(Ulrich, Jick, & Von Glinow, 1993) argued that learning capability represents the capacity of managers within an organization to generate and generalize ideas with impact. This definition has three major components. First, managers must be able to generate ideas with impact. Second, managers must be able to generalize ideas.

Learning cannot occur unless ideas are shared across any one of a number of boundaries.(Hsu & Fang, 2009) have referred to OLC as an organization's ability to absorb and transform new knowledge and apply it to new product development with competitive advantage and high production speed.

Dimensions of organizational learning capability:

Following a comprehensive literature review, (Chiva, Alegre, & Lapiedra, 2007) identified five essential facilitating factors of organizational learning: experimentation, risk taking, interaction with the external environment, dialogue and participative decision making.

- **Experimentation:** Experimentation is defined as the degree to which new ideas and suggestions are attended to and dealt with sympathetically. Experimentation involves trying out new ideas, being curious about how things work, or carrying out changes in work processes. It includes the search for innovative solutions to problems, based on the possible use of distinct methods and procedures
- **Risk-taking:** it's to know that with new ideas there is always part of ambiguity, uncertainty, and error as much as success. The organization must accept all the consequences.
- **Interaction with the external environment:** some authors label its openness based on the degree of relationships between the organization and all factors in its environment like competitors, political and legal systems, social environment...etc.
- **Dialogue:** it's the communication and sharing of knowledge and information to create a sustained collective inquiry, and build a common understanding between individuals or groups to solve a problem.
- **Participative decision-making:** it depends on giving more information and details to subordinates to participate in the process of decision-making, and this practice support and facilitate learning in the organization.

1-3 Relationship between Transformational Leadership and Organizational Learning Capability

In the context of the relationship between leadership and organizational learning, a literature review indicates that

leaders play a central role in the organizational learning process, by providing the contextual support in the organization, leaders obtain the needed resources for learning to occur through exploration and exploitation leadership facilitates organizational learning (Berson,

Nemanich, Waldman, Galvin, & Keller, 2006). Hence, leadership orientation must move away from being “person-centred” or exclusively “Focused on production and marketing” to an approach that is “change-oriented, and push everyone to explore and learn”. Therefore learning capability comes when managers not only generate ideas, but are able to share those ideas across boundaries within the organization. Managers build learning capability when they both generate and generalize ideas with impact (Ulrich, Jick, & Von Glinow, 1993)

As such, internal knowledge sharing and external information gathering and integration are key priorities for leaders, as strategic leaders need to foster organizational learning and innovation to achieve a defined vision.

(Hirschi, 2009) Confirmed that sharing internal knowledge and the collection as well as integration of external information are key priorities of organizational leaders.

Moreover, in order to support leaders' development of organizational learning capabilities, the learning process must be characterized by sustainability and continuity in the business organization, as it must include individuals, work teams and the business organization as a whole. Thus, throughout the learning process, leaders provide the direction needed to cross organizational boundaries and integrate what has been learned, and work to institutionalize learning by integrating new and existing knowledge into the organization's policies and practices. (Berson, Nemanich, Waldman, Galvin, & Keller, 2006)

Meaning, in all these processes, the leader has a crucial role of building an effective learning culture and sustaining it, and to ensure the success of learning capacity development, many studies consider that the behaviors of leaders play an important and pivotal role in developing capabilities and supporting all stages of learning. Further (Vera & Crossan, 2004) argued that leadership behaviors play roles in the processes of exploration (feed-forward learning) and exploitation (feedback learning) On the one hand, transformational leadership best suits situations involving a change to the existing order of institutionalized learning.

According to (Slater & Narver, 1995), Transformational leadership (TL) is a powerful tool for the development of organizational learning. Edmondson, A. (1999 study) indicated that the practice of transformational leadership creates an atmosphere of openness and psychological safety, which is considered A critical factor for effective organizational learning to occur. Hence, transformational leaders may facilitate the cognitive and

behavioural changes in organizational members resulting from previous phases of organizational learning (Zagoršek, Dimovski, & Škerlavaj, 2009).

Additionally, (Vera & Crossan, 2004) mentioned that the transformational leader influences the stimulation of learning and knowledge implementation; facilitate organizational learning by providing advice, assistant, defining involving a change to the existing order of institutionalized learning structures, activities and building relationships within groups. Furthermore, transformational leadership cares about other, intellectually stimulate and , inspire other, and identify with the team's goals by consensus and consultation. This enhances employee empowerment, creative flexibility, team work spirit and elevated performance (Bass B. , 1999)

Therefore, transformational leadership builds teams and provides them with direction, energy, and support for change processes and organizational learning. It acts as a catalyst, a mentor, a facilitator and a trainer in organizational learning. This style allows organizations to learn through experimentation, exploration (García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012) and encourages open communication in all transparency, promotes dialogue and cooperation among team members, drives individuals to express different opinions and ideas and motivates them to accelerate the acquisition and dissemination of knowledge, by expressing their views and ideas, which improves the process of interpreting information and facilitates the resulting cognitive and behavioral changes resulting from earlier stages of organizational learning.

We also consider the practice of transformational leadership positively affecting the independence and reactions of employees in terms of their performance and role expectations, in addition to a clear and shared vision at the organizational level, as it supports intuition for exploration (Berson, Nemanich, Waldman, Galvin, & Keller, 2006). The leader's expression of confidence in ability and the reinforcement of employees' learning culture results in higher performance and more creative solutions. Leaders may also influence a followers' intuition by building the type of organizational contexts (i.e. cultures or climates) that encourage organizational learning capability.

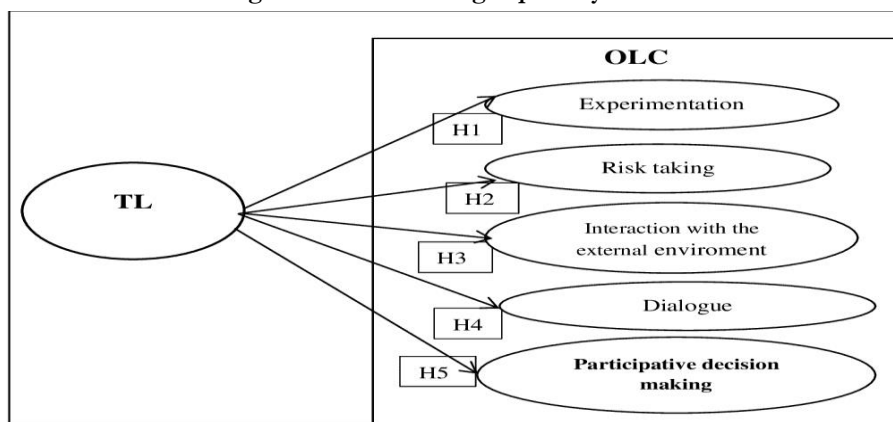
The way in which organizational learning emerges is extrinsically linked to leadership style. TL fosters organizational learning and allows

the organization to learn through experimentation, communication, personal mastery (Salas-Vallina & Fernández, 2017)

Based on the theoretical study and previous research above, based on the theoretical study and previous research above, the following hypothesis is proposed:

H: Transformational leadership has a significant effect on the organizational learning capability

Figure 1. Hypothesized effect of transformational leadership on organizational learning capability



Hypothesis: Transformational leadership effect the Experimentation (H1), Risk tacking, (H2), interaction with the external environment (H3), Dialogue (H4), and Participative decision making (H5), dimensions of organizational learning.

The conceptual models in **Figure 1** summarize the relationships between of leadership and organizational learning capability.

2. Materials and Method

2-1 Sample and data collection

An appropriate sampling method was used to collect the required data. This study investigates the impact of transformational leadership on organizational learning capability. The data used to test the hypotheses are drawn from the organizations

operating in the wilaya of Annaba Region of which is the most industrial region. The questionnaire was sent to 200 Workers and managers of industrial companies participated in this study and volunteered to participate in research surveys.125 of them answered

successfully completed the prepared survey and the response rate was 62,5%. The sample size consisted of 89 simple workers and 21 heads of departerment and 11 subdirectors and 4 director.

2-2 Variable measures

In this study, multi-item scales are used and all scales are adopted from prior studies in the literature. First, Transformational leadership have been adapted from the study of (Bass & Avolio, 1990) which comprises four dimensional :Idealized influence (Ideal)) (5 items), Intellectually stimulating (Intellect) (7 items),Inspirational motivation (Inspir) (5 items) and Individually considerate (Individual) (5 items). Second, organizational learning capability has been adapted from the study of (Chiva, Alegre, & Lapiedra, 2007)) which comprises five dimensional: experimentation (Exper)(3items),Risk taking (Risk)(2 items), **interaction** with the **external environment** (Interc)(4 items), Dialogue(Dial)(4 items), and Participative decision making(Part)(3 items).All constructs are measured by using 5-point Likert scales ranging from “Strongly disagree” (1) to “Strongly agree” (5).

2-3 Data Analysis

This study employed the Structural Equation Modeling-Variance Based (SEM-VB) through Partial Least Squares (PLS) method to analyze the research model using SmartPLS 3.0 software (Ringle, Da Silva, & Bido, 2015) to test the research hypotheses. We use partial least squares (PLS-SEM) to the following causes it can be used with much smaller sample sizes, (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014). It also examines the relationships between variables (Hair Jr, Howard, & Nitzl, 2020). Finally PLS used for studies in strategic management (Hair, Sarstedt, Pieper, & Ringle, 2012).

Following the recommended two-stage analytical procedures by (Anderson & Gerbing, 1988).In the first stage we assessed the measurement model (reliability and validity of the measures) and in the second, we examined the structural model. (testing the hypothesized relationship)

3- Results

3- 1 Measurement Model

The first step in measurement model assessment involves examining the indicator loadings, by assessing the relationship between the constructs and their indicators. Loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 per cent of the

indicator's variance, thus providing acceptable item reliability (Hair, Risher, Sarstedt, & Ringle, 2019).

- **Internal Consistency Reliability**

The reliability of the construct can be measured in two ways – Cronbach's alpha (α) and composite reliability (CR) (Hair Jr, Howard, & Nitzl, 2020).

The alpha coefficient ranges from 0 to 1 and can be used to describe the reliability that where a higher value indicates higher reliability level (Santos, 1999). The results indicate that all the individual Cronbach's alpha coefficients ranging from 0.707 to 0.967 were higher than the ,accepted value 0.7 (Anderson & Gerbing, 1988). Cronbach alpha reflected the constructs stability and consistent However, criticized as being a lower bound and hence underestimating true reliability and a popular alternative to Cronbach alpha is composite reliability, as it is weighted, is more precise than Cronbach alpha (unweighted), therefore CR should be assessed and reported (Hair et al., (20192020), also (CR) is analysed to assess the internal consistency of factors, adopting (≥ 0.70) as cut-off values, as suggested by (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014; Hair, Risher, Sarstedt, & Ringle, 2019; Hair Jr, Howard, & Nitzl, 2020). The result of the analysis showed in Table 1 that all the constructs have a CR value more than 0.7 which indicates sufficient internal consistency reliability.

- **Convergent Validity**

The convergent validity is the assessment to measure the level of correlation of multiple indicators of the same construct that are in agreement. To establish convergent validity, the average variance extracted (AVE) have to be considered (Fornell & Larcker, 1981).

The value ranges from 0 to 1 but acceptable AVE is 0.50, or higher indicating that the construct explains at least 50 per cent of the variance of its item. (Hair, Risher, Sarstedt, & Ringle, 2019). An examination of the convergent validity was conducted to assess the validity of the constructs Table 2 shows that the AVE values exceed the minimum threshold of 0.5, ranging from 0.563 to 0.771 thus confirming convergent validity.

Table (1) Reliability and validity measures of the research model

Construct Variable	Construct Items	Outer Loadings	Cronbach's Alpha	AVE	Composite Reliability
TL		0.968	0.967	0.595	0.969
Idealized Influence (Ideal)	Ideal1	0.920	0.918	0.711	0.936
	Ideal2	0.824			
	Ideal3	0.903			
	Ideal4	0.841			
	Ideal5	0.849			
	Ideal6	0.841			
Inspirational Motivation (Inspir)		0.903	0.903	0.721	0.928
	Inspir1	0.805			
	Inspir2	0.875			
	Inspir3	0.875			
	Inspir4	0.846			
Intellectual Stimulation (Intellect)		0.920	0.918	0.710	0.936
	Intellect1	0.873			
	Intellect2	0.863			
	Intellect3	0.796			
	Intellect4	0.836			
	Intellect5	0.855			
Individualized Consideration (Individual)		0.941	0.896	0.716	0.925
	Individual1	0.618			
	Individual2	0.867			
	Individual3	0.923			
	Individual4	0.901			
Experimentation		0.787	0.752	0.667	0.856
	Exper1	0.873			
	Exper2	0.731			
	Exper3	0.840			
Risk taking		0.731	0.707	0.771	0.871
	Risk1	0.907			
	Risk2	0.850			
Interaction with the external environment		0.764	0.743	0.563	0.836
	Interexter1	0.650			
	Interexter2	0.836			
	Interexter3	0.795			
Dialogue		0.709	0.796	0.619	0.866
	Dial1	0.821			
	Dial2	0.808			
	Dial3	0.803			
Participative decision making		0.840	0.726	0.639	0.841
	Dial4	0.689			
	Part1	0.731			
	Part2	0.807			
	Part3	0.728			
		0.858			

Source: Output of Smart PLS 3.0 Program Processing

- Discriminant validity

The discriminant validity is established if a latent variable accounts for more variance in its associated indicator variables than it shares with other constructs in the same model. (Fornell & Larcker, Evaluating structural equation models with unobservable variables and measurement error, 1981) This method compares the square root of the average variance extracted (AVE) with the correlation of latent constructs. (Henseler, Ringle, & Sarstedt, 2015)

Evidence of Discriminant validity is demonstrated when the shared variance (the squared root) within a construct (AVE) exceeds the shared

variance(the squared root) between the constructs. (Fornell & Larcker, 1981); (Hair Jr, Howard, & Nitzl, 2020). As shown in Table2, the square root of AVE for each construct is greater than the correlations between them and all other constructs. Therefore, the results suggest an adequate discriminant validity of all measurements.

Table (2) Results of discriminant validity by Fornell-Larcker criterion

	TL	Dila	Exper	Inter	Part	Risk
TL	0.771					
Dila	0.679	0.786				
Exper	0.792	0.670	0.816			
Inter	0.518	0.592	0.575	0.750		
Part	0.512	0.596	0.589	0.554	0.799	
Risk	0.371	0.442	0.457	0.541	0.531	0.878

Source: Output of Smart PLS 3.0 Program Processing

3-2 Structural Model

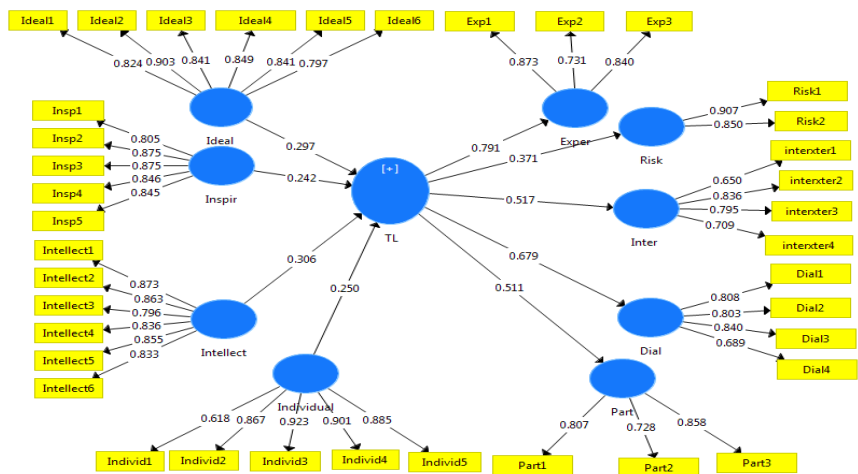
If the measurement model evaluation provides evidence of reliability and validity, the next step in evaluating PLSSEM results is assessing the structural model (Hair, Risher, Sarstedt, & Ringle, 2019)

- Path

The research hypotheses are tested by assessing level of significance of the path coefficients estimated by PLS, using a bootstrap procedure with 500 resamples (Hair, Sarstedt, Ringle, & Mena, 2012). The path coefficients are presented in **Table 3** and **Figure 1**. Overall all five hypotheses (H1, H2, H3, H4, and H5) are supported both at $p < 0.05$. As showed that the most important effects were the effects of Transformational Leadership style (**TL**) on the Experimentation(**Exper**) (Beta value =0.791,t=23.735; $p < 0.05$; H1), followed by the effect of transformational leadership style (**TL**) on Dialogue (Beta value =0.679, t=11.954; $p < 0.05$; H4). The effects of Transformational Leadership style (**TL**) on Interaction with the external environment (**Inter**) came third, with (Beta value =0.517,t=5.979; $p < 0.05$;H4).

Last but not least was the effect of Transformational Leadership style (**TL**) on Participative decision making(**Part**) the (Beta value =0.511,t= 6.499; $p < 0.05$; H5) ($\beta = 0.053$; $p < 0.01$; H3) and finally The effect of Transformational Leadership style (**TL**) (Beta value =0.371, t=4.547; $p < 0.05$; H2) on Risk taking(**Risk**).

Figure (1) Results of the structural model assessment



Source: Output of Smart PLS 3.0 Program Processing

Table (3) Results of the hypothesis testing

Hypothesis	Path	Beta value	R ²	F ²	SE	t-value	p-value	Decision
H1	TL-> Exper	0.791	0.623	1.674	0.033	23.735	0,0000	Supported
H2	TL-> Risk	0.371	0.130	0.159	0.081	4.547	0,0000	Supported
H3	TL-> Inter	0.517	0.261	0.365	0.086	5.979	0,0000	Supported
H4	TL-> Dial	0.679	0.457	0.875	0.056	11.954	0,0000	Supported
H5	TL-> Part	0.511	0.255	0.353	0.078	6.499	0,0000	Supported

Source: Output of Smart PLS 3.0 Program Processing

- Measuring the value of R²

The primary criterion for the structural model is the coefficient of determination (R²), is frequently employed to measure the relative explanatory power of independent variables. (Moksony, 1990)

The(R²) represents the proportion of the variance in the dependent variable that is predictable from the (independent variable), and is

therefore a measure of the explanatory power of the model (Hair, Risher, Sarstedt, & Ringle, 2019) R^2 value ranges between 0 and 1, where a higher value indicates a higher level of predictive accuracy. According to (Henseler, Ringle, & Sinkovics, 2009) R^2 values of 0.67, 0.33, or 0.19 for endogenous latent variables (Dependent variable) in the Structural model are described as substantial, moderate, or weak respectively. Whereas (Hair, Risher, Sarstedt, & Ringle, 2019) suggested that 0.25 is weak, 0.50 is moderate, and 0.75 is substantial.

The result shows in Table3, that the indices for explained variability R^2 value on the **Exper** is 0.623, meaning that the transformational leadership style (**TL**) able to explain the **Experimentation** variable by 62.3 %. Hence, the values fall under the substantial category according to (Henseler, Ringle, & Sinkovics, 2009) and the moderate category according to (Hair, Risher, Sarstedt, & Ringle, 2019). The result shows R^2 value on **Dial** is 0.457, meaning that the transformational leadership style (**TL**) able to explain the **Dialogue** variable by 45.7% (moderate), while The ability of the transformational leadership style (**TL** variable) in explaining **Interaction with the external environment** (**Inter** variable) is weak 26.1% (weak) and explaining **Participative decision-making** (**Part** variable))25. % (weak) , and The ability of the transformational leadership style (**TL** variable) in explaining the **Risk taking** (**Risk** variable) by 13.0% (very weak).

4- Discussion

This study analysed the impact of transformational leadership on organizational learning capability by collecting data from employees in industrial companies active in wilaya of Annaba. To improve their response capability to the dynamic changes in their environment, support their organizational learning capabilities, and achieve business development, companies must adopt a leadership style that supports change and improves organizational learning capability.

4-1 Practical and Managerial Results

The first objective of this research was to study the effect of transformational leadership on organizational learning capability. Overall, the results showed that transformational leadership has an impact on organizational learning abilities. However, the degree of effect of transformational leadership on the dimensions of organizational learning capability of individuals varies in the industrial companies under study, as the study found that the practice of transformational leadership has the

greatest effect in favor of pushing individuals to experiment, while less affecting them to take risks.

This results lends support results previous studies that found, that transformational leader effect the stimulation of learning and knowledge implementation (Vera & Crossan, 2004). Transformational leaders inspire employees to acquire or learn new knowledge for the development and success of the organisation (Van der Voet, 2014). TL can encourage and challenge employees to innovate and improve current products, processes, and organizational structures to meet goals and organizational vision, and facilitate to develop employees' capabilities, and bring them learning opportunities that is the main sources of building employee's creative thinking (Le & Lei, 2019). In addition (Kazmi, Kanwal, Rathore, faheem, & Fatima, 2021) found significantly influences OLC in the software industry of Pakistan hence recommends that human resource managers focus on developing transformational leadership traits to facilitate the development of organizational learning capabilities In this manner, software companies can improve their competitive advantage over others.

4-2 Research Limitation and Future Research Directions

There are several limitations in the present research that could open up prospects for future research. First, the scope of the current research is limited to industrial companies in the state of Annaba Second, the study measures the variables based on the simple worker and CEOs' managerial and perceptions, which involve a certain degree of subjectivity. Third, we recognize that we introduce another selection bias through our data collection method, as we distributed a limited number of questionnaires as an exploratory study. Then, in terms of research methods, researchers can also use qualitative and mixed methods in the future to understand the relationship between the two variables.

Finally, the model only analyzes the relation between transformational leadership and organizational learning capability. Although selected variables explain an important relation .But future research might well consider olc is median variable , to explicit impact transformational leadership on Entrepreneurial, Orientation organization innovativeness (Nofal & Jaradat, 2020).Future studies might also examine consequences of introducing median variable, such Perceived Human Resource Effectiveness (Kazmi, Kanwal, Rathore, faheem, & Fatima, 2021).

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