






LEADERSHIP STYLES IN ECUADORIAN COMPANIES: APPLICATION OF THE MULTIFACTOR LEADERSHIP QUESTIONNAIRE (MLQ)

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Abstract. Leadership has been widely studied worldwide, emphasizing changes that individuals with particular qualities achieve from the transformational and transactional. The objective is to evaluate the relationship between transformational and transactional leadership styles taking into account the effort and effectiveness perceived by followers in Ecuadorian public and private companies. Visions of seminal authors are analyzed on the subject Avolio and Bass, Emeka, Feliciano et al., Gutiérrez et al., Mirzani, among others. The research was quantitative, non-experimental, cross-sectional, and explanatory. The MLQ instrument (Avolio & Bass, 1991) was used, the sample was non-probabilistic for convenience, with 519 workers from Ecuador participating. SPSS V25 and SmartPLS4 software were used. Don't exist significant differences in transformational leadership about gender, but there are in transactional leadership. By type of company, it was evidenced that there are no significant differences regarding transformational leadership, more so when analyzing transactional leadership. Men apply transactional leadership to a greater extent than women, demonstrating that transformational leadership is applied in the private sector in a higher percentage. Gender moderates the relationship between transformational leadership and effort, as well as the relationship between transactional leadership with effort and effectiveness. No evidence of any moderating effect of company type on the relationship between leadership styles and effort was found.

Keywords: management characteristics, Ecuadorian companies, leadership styles, leadership, Multifactor Leadership Questionnaire.

JEL Classification: M10, M12, M14.

Introduction

Leadership represents a social and complex phenomenon of great interest (Londoño-Proano, 2022; Gómez-Romero & Quintero-Robles, 2019; Fernández & Quintero, 2017; Ramírez Méndez, 2013 cited by Rojero-Jiménez et al., 2019) that has evolved to the same as the nature of the human being (Emeka, 2022). It is analyzed as a process of social influence (Zárate-Torres et al., 2022) and exercised by individuals who have qualities that contribute to organizational management tasks (Jauregui-Arroyo et al., 2023). Leadership provides guidance to followers and subordinates to achieve objectives (Mirzani, 2023; Bajcar & Babiak, 2022; Arwika & Irsutami, 2022; Alcázar, 2020; Peralta, 2010; Dubrin, 2001), it is key to achieving excellent results (Mirzani,

2023; Mañas-Rodríguez et al., 2020; Gameda & Lee, 2020; Pedraja-Rejas et al., 2020; Rodríguez-Ponce et al., 2017) and requires specific behaviors in the face of the challenge of moving from the ordinary to the extraordinary (Kouzes & Posner, 1997 cited by Berbel Sánchez, 2014).

A leader is considered crucial for the proper functioning of management (Gameda & Lee, 2020; Pedraja-Rejas et al., 2020) and for sustained success. Their proactive exercise is the basis for transforming environments (Guerrero Bejarano et al., 2021) with the unrestricted support of collaborators or followers in the field in which they develop (Arzi & Farahbod, 2014). Leaders are fundamental change agents to promote an adequate and healthy corporate culture (Hermawan & Arief, 2023), while guaranteeing efficiency in achieving objectives.

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A lot has been written about leadership (Alcázar, 2020; Fernández & Quintero, 2017; Ruíz, 2016), awakening more and more interest in the subject (Londoño-Proaña, 2022), however, despite having been defined in countless studies (García-Solarte et al., 2017), to date it can be said that there is no agreed definition. Due to this, the demands in the understanding of the central elements of leadership have led experts to define profiles or styles that allow, according to remarkable qualities and abilities in a person, to characterize or determine their leadership style (Blanchard et al., 1993; Bass & Avolio, 1990).

Their charisma, behavior and the very essence of being, accompanied by the intellect of knowledge, have managed to overcome exchanges and negotiations that previously arose between leaders and collaborators (Coca Herbas, 2017; Lupano Perugini & Castro Solano, 2006; Yukl, 1990). It scales in the organizational aspect and adds great emphasis to human values as the basis for achieving organizational efficiency (Thompson & Glasø, 2015; Serrano Orellana & Portalanza, 2014; Papworth et al., 2009).

From the multidimensional or multifactorial, basic forms are required for the conversion of individuals into organizational leaders (Yaghoubipoor et al., 2013; Bass, 1985): 1) the theory of traits at the personality level, to naturally have leadership roles, 2) the theory of great events, in which qualities of leaders are revealed in specific circumstances and, 3) the transformational leadership theory, which involves studying, learning, and putting leadership skills into practice. Based on such theories, Bass (1985), Bass and Avolio (1990), specify the existence of three fundamental leadership styles: 1) passive or *Laissez faire*, 2) transactional and 3) transformational, and designed the Multifactor Leadership Questionnaire (MLQ) questionnaire, as an evaluation instrument to measure these styles through 45 items.

Leadership is a subject widely studied in different organizational and global contexts (Jauregui Arroyo, 2023); due to the fact that companies are subject to situations, elements or factors that enable or restrict the fulfillment of objectives efficiently. Faced with these demands, the harmony that can be achieved in organizational systems made up of structures, hierarchies, processes, technology, and above all, by people, essential agents in their direction, is necessary. In particular, individuals have skills, qualities and behaviors that can enable or restrict the harmonious development of the usual operations carried out in companies, therefore, it is important to study how the efforts made by the social group can be beneficial for the company organization. Studying the figure of the leader, from the perspective of his followers, was the focus of the research carried out, given the need to identify fundamental elements that made it possible to efficiently achieve the objectives of the company (Jiménez & Villanueva, 2018).

The research was developed in Ecuador, from the principles established by Bass (1985) and Bass and Avolio (1990), and can be replicated in any Latin American country. Its objective was to evaluate the relationship between the transformational and transactional leadership style,

taking into account the effort and effectiveness perceived by followers in public and private companies. The aforementioned leadership styles are taken into account, each one with essential characteristics, and approached from the leader-follower relationship to achieve effective performance, backed by the efforts of those involved in these organizational and management processes. For leadership to be effective, a correct style must be assumed that will depend on the maturity of the followers to: 1) accept or reject the leader and his actions, 2) show respect for the leader, 3) recognize that the leader helps them to meet their objectives and directs and supports them, achieving that individual goals are articulated with the organizational ones (Alcázar, 2020). The leader challenges and awakens his team spirit in his followers, obtaining as a result committed and involved followers (Peralta, 2010). The study of leadership styles in companies and their influence on the performance of followers and on the organization is a topic of great importance to study (Asgari et al., 2020; García Solarte, 2015; Rodríguez-Ponce et al., 2017). Companies are obliged to make an effort (from the figure of the leader) so that their employees work more effectively and efficiently, thus promoting the addition of value (Arwika & Irsutami, 2022), and increasing their capacities to compete with other companies. Achieving followers who offer their maximum effort will allow for effectiveness, and for this, there must be a correct leadership style, which depends on the maturity of the followers, in terms of ability and willingness to fulfill a specific task (Alcázar, 2020).

The relationship between leadership and effectiveness suggests that leadership styles may be appropriate in some situations and not in others (Dunkerley, 1972; Eliophotou Menon, 2014; Quintana et al., 2015).

To evaluate the relationship between transformational and transactional leadership styles with the effort and effectiveness perceived by followers, we analyze whether gender and type of company have a moderating effect on these relationships. The research investigates transformational leadership and its impact on the effort of the members of the organization.

1. Literature review

Leadership studies have become very important in recent years, which is why it has been studied from various disciplines and, especially, in the business field (Saavedra Mayorga, 2019; Willman Carvajal & Velasco Arango, 2011). Establishing some precisions about its definition implies assuming it as an interpersonal, dynamic and social process, where one individual (leader) influences another (followers) to achieve individual and organizational goals and objectives (Mirzani, 2023; Zárate-Torres et al., 2022; Guerrero Bejarano et al., 2021; López-Lemus et al., 2020; García-Solarte et al., 2017; Escandon-Barbosa & Hurtado-Ayala, 2016; Lupano Perugini & Castro Solano, 2005), this individual has particular characteristics and qualities that differentiate him from the social group, while promoting interactions that, according to Mena Méndez (2019), lead

to the structuring (or restructuring) of perceptions and expectations of the group, as well as changes at the level of behaviors. During the exercise of leadership, processes such as power, authority and responsibility are required in the organizational context (Ramírez Méndez, 2013; Vargas-Salgado et al., 2023).

Each leader, given his conception of being human, exercises leadership according to his innate qualities and in a differentiated way. Some have greater charisma and inspire confidence, while others, from their way of being, offer incentives, rewards and exchanges (economic, emotional and physical), being able in both cases to achieve results for the benefit of the organization. In this sense, in order to determine behavior patterns shown by individuals (leaders) that are stable (Eagly & Johannesen-Schmidt, 2001), leadership styles or profiles have been defined.

Leadership styles represent the strategy adopted by a person (Emeka, 2022), they are built based on how the leader exercises processes such as decision-making, decentralization of authority, and by recognizing the ability of others to contribute in the process. development of ideas and activities (Newstrom, 2011), marking the way in which employees are directed and inspired to achieve organizational objectives (Madrigal Torres, 2009; Eliophotou Menon, 2014).

A variety of leadership styles are recognized, none is identified as the most suitable; The type of leadership exercised will depend on the context and characteristics of the tasks, the profession, the present situation, the leader and the follower, as identified by the path-goal leadership model (Lupano Perugini & Castro Solano, 2006). Considering the approaches of Rivera Porras et al. (2018), the elements of the context can be expressed in the organizational culture, the work environment, norms, policies, values among other essential aspects that guide the behavior of people, even leaders have an essential role in the construction of these concepts in companies (Guerrero

Bejarano et al., 2021). These workspaces are generated from individual and personal qualities of those who are part of the company, in this sense, recognize and use these imperative qualities in favor of the organization in the aspect of management (Capcha-Hinostroza, 2020) in relation to the foregoing, not recognizing what has been mentioned, may affect depending on the characteristics of the companies and the environment in which they operate. They could even vary if the company belongs to a public or private environment, due to its size, its time in the market in which it operates, that is, depending on the conditions established by the context in which the company operates (Savery & Syme, 1996).

In relation to leadership styles, those proposed by Bass and Avolio (1990) and assumed by various authors (Mirzani, 2023; Feliciano et al., 2022; Mendoza-Solís et al., 2006) are assumed to determine the profile of leaders in organizations (Table 1).

To distinguish between transformational, transactional, and laissez-faire styles, leadership was divided into six factors: three representing the transformational style, two the transactional style, and one the laissez-faire style (Bass, 1985). These are: (a) charisma, which gives followers a clear purpose that energizes them, shapes their ethical conduct, and creates identification with the leader and his articulated vision; (b) the intellectual stimulation that causes followers to question the routine way of solving problems and encourages them to question their methods to improve it; (c) individualized consideration that focuses on understanding the needs of each follower and continually works to enable them to develop their full potential; (d) the contingent reward that clarifies what is expected of followers and what they will receive if they meet expected levels of performance; (e) management by active exception, which focuses on monitoring task execution for any problems that might occur and correcting such problems to maintain performance level; (f) passive avoidance

Table 1. Essential characteristics of leadership styles (source: author, 2023)

Leadership Style		
Essential Characteristics		
Transformational	Transactional	Laissez - Faire
<ul style="list-style-type: none"> - Raises employees values - Promotes proactive and positive behaviors. - Creates a significant change in the lives of the people and organizations. - Improves the efficiency of the company. - Emphasizes the development, satisfaction, and growth of subordinates. - Demonstrates model behaviors. - Encourages problem solving in new and creative ways. - Reduces the likelihood that employees will leave the company. - They manage to respond quickly to the demands of the environment. - Inspirational motivation. 	<ul style="list-style-type: none"> - It is based on the exchange of rewards the leader – followers. - Reward system for the achievement of objectives or a specific performance. - Confirms link between performance and reward. - Works to achieve short-term goals. - Follow rules and procedures. - Reciprocal relations benefits vs performance. - The subordinate is told what to do and is paid for it. - Subordinates agree to fully obey their leader. - Emphasize homework. 	<ul style="list-style-type: none"> - There is no leadership presence. - Negatively influence followers. - Minimizes participation in the decision-making process. - Avoid making decisions and give everyone the right and make decisions and perform their duties. - Does not make use of authority that his role confers on him. - It is the most ineffective and unproductive compares to other leadership styles.

leadership, which reacts only after problems have become serious to correct them, and often avoids making decisions (Avolio et al., 1995). In each of these styles, elements, characteristics, or components that need to be specified are include (Table 2).

Table 2. Components according to leadership styles (source: Author, 2023)

Leadership Styles		
Leadership Styles	Charac-teristics	Precisions
Trans-forma-tional Leadership	Idealized influence	Also called charisma, it projects a role model, clarifies a vision, and evokes team trust. Leader high ethical and moral standards
	Inspirational motivation	The leader communicates the vision and expectations, motivating the group to innovate and make commitments to increase the prospects for success
	Intellectual stimulation	Guides subordinates to act creatively and innovatively, to improve their performance and to get out of their comfort zone
	Indivi-dualized consi-deration	Shows the team that their individual contribution is important
Trans-acti-onal Leadership	Contingent reward	Rewards and incentives are determined according to the performance of the team
	Admini-stration for excep-tion	Efforts are focused on the deviations identified, managing to take corrective measures
	Passive avoidance leadership	Leader only acts when the situation is serious

For Cuadrado and Molero (2002), transformational and transactional leadership continues to arouse the interest of numerous researchers who develop their studies in the field of leadership. For Burns (1978) cited in Norena et al. (2021) transformational and transactional leadership styles are mutually exclusive; because transactional leaders do not seek changes at the cultural level within the organization, but work on the existing culture, while transformational leaders try to change the organizational culture. However, studies such as the one developed by Eliophotou Menon (2014), in a sample of 438 followers, demonstrated that perceptions of leader efficacy and job satisfaction are significantly related to transformational and transactional leadership styles. Similarly, Quintana et al. (2015) found that the attributes of idealized influence and the contingent reward of transactional leadership are the most important factors that positively affect additional effort, perceived efficiency, and satisfaction.

Under this context of analysis, the discussion on gender and the type of company as moderator variables in this research is added to the analysis. When talking about

gender, Paterna and Martínez Martínez (2009) argue that it is a line that has attracted attention in this field. Camps Del Valle et al. (2010) refer that a leader without differentiating gender, must be able to influence followers, however, there are possible differences between men and women in their leadership styles. Gender influences the way women and men lead, with significant differences between them (Zarate-Torres et al., 2022). For decades, studies have tried to demonstrate the existence of differences between men and women in leadership styles, and this type of study has gained increasing interest over the years.

According to the Economic Commission for Latin America and the Caribbean (CEPAL, 2019), the participation of women in the labor field has highly relevant social and cultural effects, by transforming the daily life of families, models, and aspirations of new generations. For Gutiérrez et al. (2022), cultural differences generate differences between men and women, their performance and the expectations expected of each one, also despite the economic and social development of recent times, there are still evident gender differences. For example, in Ecuador, according to the Hofstede (1983) model, there is a high score in masculinity.

The glass ceiling for women would probably continue to irritate with the same intensity, given the existence of gender differences in access to management positions, as a proven reality (Powell & Butterfield, 2015; Albrecht et al., 2003; Cotter et al., 2001). For Munduate (2014), from essentialist approaches, the existence of something essentially feminine in all women is argued, which contrasts sharply with the essentially masculine nature.

The debate is still open between researchers who assume the existence of some important basic differences between the sexes and try to explain them through the incidence of variables such as leadership style, for example, and those who suggest that trying to find differences between the behaviors of men and women (Square cited by Munduate, 2014).

In most of the Latin American countries, the increase in the incorporation of women is reflected in their participation rate of 15 years or more, which increased from 41% in the early 1990s to close to 52% in 2018 (CEPAL, 2019). In 11 of the 18 countries in the region, women collaborate more than men in highly skilled jobs, while for the remaining 7 the participation of women is between 10% (Guatemala and Chile) and 34% (Mexico) lower than that of men (Marchionni et al., 2019).

Based on the previous approaches, the following working hypotheses are formulated:

- H1: Transformational leadership affects the effort of the members of the organization,
- H2: Transformational leadership affects the effectiveness of the members of the organization,
- H3: Transactional Leadership affects the effort of the members of the organization,
- H4: Transactional Leadership affects the effectiveness of the members of the organization,

- H5: Gender moderates the relationship between transformational leadership and the effort of the members of the organization,
- H6: Gender moderates the relationship between transformational leadership and organizational member effectiveness,
- H7: Gender moderates the relationship between transactional leadership and the effort of the members of the organization,
- H8: Gender moderates the relationship between transactional leadership and organizational member effectiveness,
- H9: The type of company moderates the relationship between transformational leadership and the effort of the members of the organization,
- H10: The type of company moderates the relationship between transformational leadership and the effectiveness of the members of the organization,
- H11: The type of company moderates the relationship between transactional leadership and the effort of the members of the organization,
- H12: The type of company moderates the relationship between transactional leadership and the effectiveness of the members of the organization.

2. Methodology

According to Hernández-Sampieri and Mendoza (2018), this article qualified as applied, non-experimental, cross-sectional, and explanatory research, it is quantitative, and the hypothetical deductive method. The data compilation was prospective, the information was collected exclusively for the study, coming from primary sources, through surveys of the instrument (MLQ) Multifactor Leadership Questionnaire. The operationalization of variables gave rise to transformational and transactional leadership as predictor variables, while the extra effort and efficiency were the dependent variables, there was also the inclusion of gender and type of company as moderator variables.

The respondents were men and women over eighteen years of age from the economically active population, for this reason, a non-probabilistic sampling was proposed for convenience (Otzen & Manterola, 2017), under the criteria of taking samples from the companies that gave positive response to the intention to participate, reaching a representative sample of 519 participants. The data analysis, in first place, was carried out through a descriptive and inferential evaluation with the SPSS V25 software, this in order to discriminate the variables that contribute significant differences to the model, thus leaving only the variables that presented a significant difference in their sample means, then the multivariate technique was applied, proposed under the modeling with structural equations with partial least squares (Birasnav, 2014) using the SmartPLS4 software. Within the evaluation method using SEM structural equations, there are two approaches, the first oriented by the CB-SEM model based on covariance, and the second oriented by the PLS-SEM model based on partial

least squares (Jannoo et al., 2014), SmartPLS4, works in line with this latter approach, allowing for systematic estimations through 3 stages. The first stage included graphic modeling and the relationships between variables based on the reviewed literature; the second stage consisted of an assessment of the measurement model, carried out through internal consistency tests (Cronbach's alpha and composite reliability) analysis of non-collinearity, through indicator (VIF), convergent validity, low indicator (AVE) and discriminant validity, with Fornell Larcker indicator. Finally, an assessment of the structural model was carried out, applying the bootstrapping analysis, which estimates the route model by means of a simulation from 5000 random subsamples (Magno et al., 2022), this procedure allowed obtaining the regression coefficients and results of the weights and external loads of the model, necessary to build the formative schemes for the tests of research hypotheses (Hair et al., 2019). All this to do, was justified, for the purpose of exposing, to what extent, the predictor variables explain the dependent variables through the moderation of the intervening variables.

The MLQ instrument is theoretically based on Avolio and Bass's ideas (2004), who postulate the existence of three types of leadership: transactional, transformational, and Laissez-faire. This questionnaire is widely used by academics in studies that analyze transactional and transformational leadership styles as a variable (Guerrero Bejarano et al., 2021; Shurbagi & Zahari, 2012; Bartram & Casimir, 2007). It has 45 questions, of these 36 items refer to the leader's behavior, which would allow knowing the leadership style; measure the differences between different styles of leadership, and the absence of leadership in organizational environments. The applied instrument can be answered by followers, superiors or peers (Xirasagar, 2008), being in the investigation, the followers who answered the established items.

The Table 3 shows the distribution of the items according to the variables in the MLQ questionnaire.

Table 3. Items of the MLQ questionnaire vs variables (source: Author, 2023)

Variable	ITEMS
Transactional Leadership	Items: 1, 3, 4, 5, 7, 11, 12, 16, 17, 20, 22, 24, 27, 28, 33, 35
Transformational Leadership	Items: 2,8,6,9, 10, 13, 14, 15, 19, 18, 21, 23, 25, 26, 29, 30, 31, 32, 34, 36
Effort	Items: 39, 42, 44
Effectiveness	Items: 37, 38, 40, 41, 43, 45

This instrument uses Likert scale to perform the measurement and has been used in previous research, which would generate validity for this research (Komari & Djarfar, 2013; Shurbagi & Zahari, 2012; Farahani et al., 2011).

Quantitative data were projected on the central variable of the study: leadership, which was combined with moderating variables such as the type of company and gender, to complement the analysis and project more

research findings. In this study, it was the subordinates who answered the questionnaire to find out their perception of their boss's leadership style.

3. Results and discussion

3.1. Descriptive and inferential analysis

For the inferential statistical analysis, the Student's T test and ANOVA were used, applied to determine if the applied transformational and transactional leadership style varies depending on the gender and type of company. Table 4 shows the descriptive results of the identified leadership styles, divided by Gender and Type of Company.

Table 4. Leadership styles by gender and company type (source: Author, 2023)

Leadership Styles	Gender	N	Media	Deviation
Transformational	Male	244	3.4412	0.81475
	Female	275	3.4364	0.80634
Transactional	Male	244	2.9899	0.61944
	Female	275	2.8830	0.54069
Transformational	Private	424	3.5200	0.75455
	Public	95	3.0753	0.94122
Transactional	Private	424	2.9698	0.56819
	Public	95	2.7703	0.61169

Table 5 shows the analysis of differences in leadership styles, for each of the variables.

Regarding transformational leadership by gender, no significant difference was found between the sample means, while in transactional leadership by gender they do report a significant difference (0.036; p-value < 0.05). Observing the descriptive results, it is inferred that, in the transactional leadership style, the male gender applies a greater transactional leadership style than the female gender (Zárate-Torres et al., 2022).

With respect to transformational leadership by type of company, the T test showed a significant difference between the sample means (0.00; p-value < 0.05); based on

these data, it can be inferred that a transformational rather than a transactional leadership style is applied in the private sector. Regarding transactional leadership by type of company, it is evident that there is a significant difference between the sample means (0.00; p-value < 0.05), therefore, when reviewing the descriptive results, it is evident that the transactional leadership style It has a greater response in the private sector than in the public.

In this regard, Mirzani (2023) establishes that transformational leadership is exercised in large companies, including: Apple, IBM, Intel, Microsoft, to which others in the technological area can be added. In the case of Ecuador, Londoño-Proano (2022) and Cardona and Rey (2009), show that in the private communication sector the transformational leadership style prevails, with characteristics that point towards behaviors that favor change, the achievement of goals, creativity and innovation, and of course the delivery of an extra effort to be more competitive. This analysis included an evaluation of the leadership styles applied by company size and it was evidenced that this variable has no incidence; no significant differences were found between the groups.

3.2. Factorial confirmatory analysis

3.2.1. Reliability analysis

The composite reliability index was calculated to reflect the relationship between the explained variance and the total variance (Kline, 2016). Table 6 shows the values obtained for each of the constructs. In all cases, the composite reliability index obtained is greater than the value of 0.7, so they can be considered reliable scales.

Table 6. Reliability of the scales of each latent variable (source: Author, 2023)

Construct	Composite Reliability Index	Cronbach's Alpha
Transformational Leadership	0.929	0.927
Transactional Leadership	0.846	0.797
Effort	0.830	0.784
Effectiveness	0.954	0.940

Table 5. Independents sample test (source: Author, 2023)

Leadership styles	Variances	Levene's Test		t-test for equality of means				
		F	Sig.	t	gl	Sig. (bilt.)	Diff. of means	Diff. of standard error
Transformational by gender	Similar	0.093	0.761	0.068	517	0.946	0.0048	0.0712
	Differences			0.068	508.37	0.946	0.0048	0.0713
Transactional by gender	Similar	1.065	0.303	2.100	517	0.036	0.1069	0.0509
	Differences			2.084	485.73	0.038	0.1069	0.0513
Transformational by company type	Similar	7.309	0.007	4.949	517	0.000	0.4447	0.0898
	Differences			4.306	122.45	0.000	0.4447	0.1032
Transactional by company type	Similar	1.535	0.216	3.048	517	0.002	0.1994	0.0654
	Differences			2.909	132.75	0.004	0.1994	0.0685

3.2.2. Convergent y discriminant validity

The convergent validity was evaluated through the analysis of the value of the average variance extracted (AVE). An AVE value of 0.50 or greater indicates that, on average, the construct explains more than half of the variance of its indicators, meeting the convergent validity criterion. Table 7 shows the values obtained, which allows us to conclude that this criterion is met.

Table 7. Constructs's convergent validity (source: Author, 2023)

Construct	AVE
Transformational Leadership	0.734
Transactional Leadership	0.716
Effort	0.542
Effectiveness	0.501

Once the convergent validity of the model was verified, its discriminant validity was analyzed. For this, the procedure proposed by Hair et al. (2019), through the Fornell-Larcker criterion which compares the square root of the AVE values with the correlations of latent variables. Specifically, the square root of the AVE of each construct must be greater than its highest correlation with any other construct. The logic of the Fornell-Larcker method is based on the idea that a construct shares more variance with its associated indicators than with any other construct. The results obtained allowed us to demonstrate that the discriminant validity criterion is met.

3.3. Structural model

The structural model, according to Hair et al. (2019), is a conceptual representation of the structural relationships between constructs or latent variables. It is usually represented with a visual diagram that explicitly shows the relationships between variables. Figure 1 shows the tested structural model, which was developed with the SmartPLS Software.

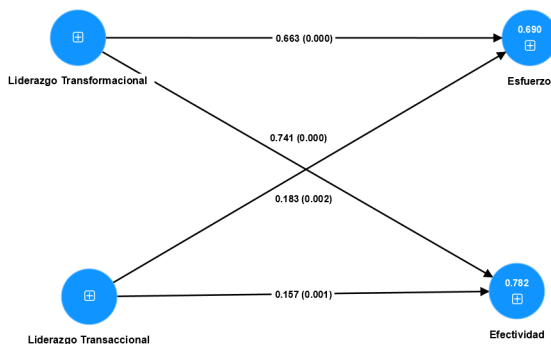


Figure 1. Structural model (source: Author, 2023)

According to Hair et al. (2019), the structural model must be evaluated according to the following criteria: (a) Analysis of collinearity in the set of predictor variables, through the VIF variance inflation factor, whose

value must be greater than 0.20 and less than 5; otherwise, the removal of constructs or fusion of predictor variables should be considered; (b) use bootstrap to assess the significance of the regression coefficients, where the recommended minimum number of bootstrap samples is 5000; (c) analysis of the value of R2. The PLS-SEM methodology aims to maximize the R2 values of the endogenous latent variables in the structural model. While the exact interpretation of the R2 value depends on the particular model and the research discipline, in general R2 values of 0.75; 0.50 or 0.25 for the endogenous latent variable, can be described as strong, moderate, and weak, respectively.

Based on this, the results obtained allowed us to conclude that the VIF values are within the recommended limits, so it is concluded that the collinearity between the predictor constructs is not a critical issue in the structural model and we can continue with the analysis. On the other hand, the R2 value obtained was 0.690 for effort and 0.782 for effectiveness, so it is concluded that the model manages to strongly explain the variability of effort and effectiveness based on the variability of leadership style.

3.3.1. Hypothesis testing

To verify the proposed hypotheses, the bootstrapping algorithm was used with a minimum number of samples of 5000 according to the criteria established by Hair et al. (2019), with the purpose of evaluating the significance of the regressions obtained between the variables. latent. Table 8 shows the results obtained.

Table 8. Regression parameters of the structural model (source: Author, 2023)

	Regression parameters	P-Values	Results
(H1) Transformational Leadership -> Effort	0.663	0.000	Accepted
(H2) Transformational Leadership -> Effectiveness	0.741	0.000	Accepted
(H3) Transactional Leadership -> Effort	0.183	0.002	Accepted
(H4) Transactional Leadership -> Effectiveness	0.157	0.001	Accepted

Regarding the analysis of H1: Transformational leadership affects the effort of the members of the organization, this statement is accepted, the regression coefficient yielded 0.663 and a p-value < 0.00. Regarding H2: Transformational leadership affects the effectiveness of the members of the organization, it is also accepted; obtained a regression coefficient of 0.741 and a p-value < 0.05 (p = 0.00), which means that there is a positive and significant relationship between the variables. Regarding the evaluation of H3, a regression coefficient of 0.183 and a p-value < 0.05 were found, in this sense the hypothesis that transactional leadership affects the effort of the members of the organization

is accepted. Regarding H4: Transactional leadership affects the effectiveness of the members of the organization, this statement is accepted, since a p value < 0.05 (p = 0.01) and a regression coefficient = 0.157 were found, therefore it is admitted.

The transformational leader from his qualities leads the effort of groups in the organization (Bass, 1985), relies on values so that subordinates feel satisfied, effective and manage to deliver additional efforts (Londoño-Proañó, 2022). From the complexity of leadership, they deliver from their daily actions, extra and continuous effort, as an example that seeks to strengthen relationships between leaders and members, a vital force to increase organizational performance (Bajcar & Babiak, 2022). Additionally Dubrin (2001), Soomro et al. (2019) and Baltazar and Franco (2023), confirm the need for organizations to have operational and effective leaders capable of understanding complex and changing environments like the current ones. Transformational leaders with clear objectives that allow them to provide their followers with the necessary tools to enhance their knowledge during the exercise of their work (Lozado, 2013). The leader plays a fundamental role in projecting and improving the performance of the organization and its employees (Arwika & Irsutami, 2022; Johnson & Holdaway, 1991).

With the purpose of evaluating if the gender and the type of company have any moderating effect between leadership styles and effort and effectiveness, the model shown in Figure 2 was analyzed:

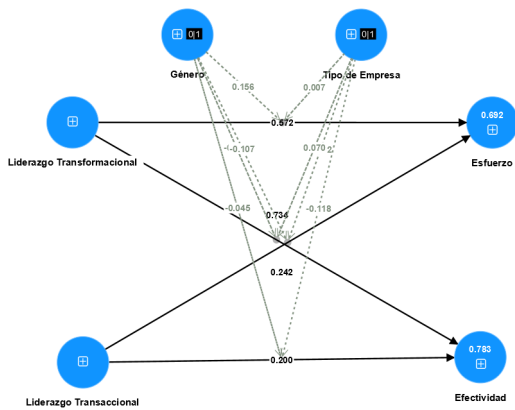


Figure 2. Interaction Evaluation Model between variables (source: Author, 2023)

The following Figures 3, 4, 5 and 6 show the interaction graphs obtained, which will be analyzed to verify the hypotheses.

In the relationship between transformational leadership and the effort of the followers, a greater perception was obtained in the female gender (green line). Regarding the relationship of this leadership style with effectiveness, it is evident that there is no moderation effect by gender, that is, there is no evidence that gender influences the relationship between this pair of variables.

Hypothesis H5: Gender moderates the relationship between transformational leadership and the effort of the

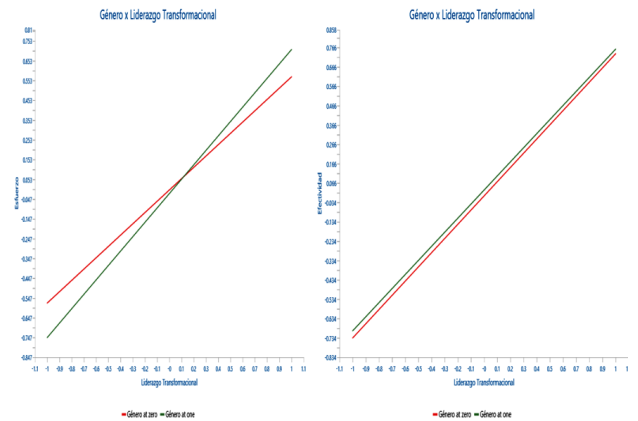


Figure 3. Transformational leadership – gender (source: Author, 2023)

members of the organization, is accepted since there was a greater perception of this type of leadership in the female gender. Regarding H6: Gender moderates the relationship between transformational leadership and the effectiveness of the members of the organization, this statement is rejected, since no evidence was found that shows a change in the relationship.

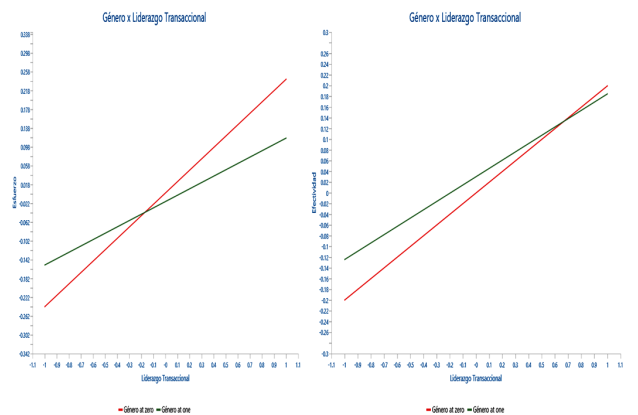


Figure 4. Transactional leadership – gender (source: Author, 2023)

Regarding transactional leadership related to obtaining effort and effectiveness, a greater effect could be seen in male followers (red line); It should be noted that there is a marked difference in the masculine tendency in the effort category of collaborators, since the red line that represents it is more vertical in this field.

Hypothesis H7: Gender moderates the relationship between transactional leadership and the effort of the members of the organization, is accepted, since evidence was found that the male gender favors greater effort. Regarding H8: Gender moderates the relationship between transactional leadership and the effectiveness of the members of the organization, this is also accepted, since it was found that the male gender shows greater effectiveness.

Regarding transformational leadership linked to the effort of collaborators, the type of company does not have a moderating effect, while this type of leadership in

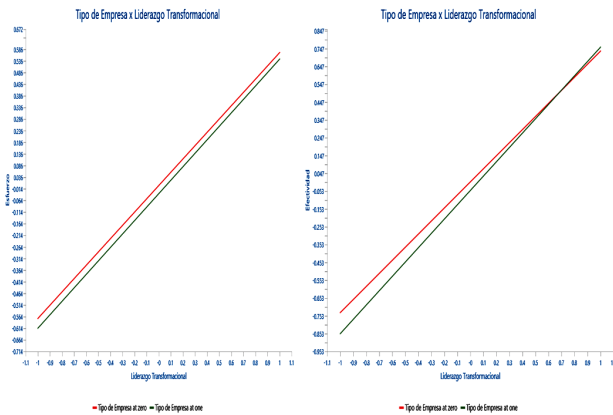


Figure 5. Transformational leadership – company type
(source: Author, 2023)

achieving effectiveness presents a greater perception in the type of public company than in the private one.

Therefore, hypothesis H9: The type of company moderates the relationship between transformational leadership and the effort of the members of the organization, is rejected, since no evidence was found that shows a change. Regarding H10: the type of company moderates the relationship between transformational leadership and the effectiveness of the members of the organization, it is accepted, since evidence was found that greater effectiveness is perceived in the public company (Figure 6).

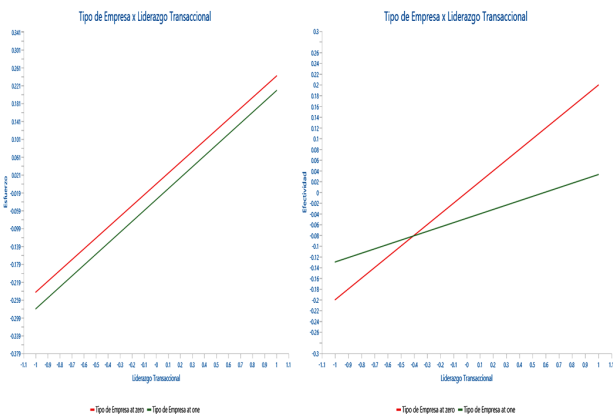


Figure 6. Transactional leadership – company style
(source: Author, 2023)

Regarding the transactional leadership for the achievement of effort, there was no evidence of a moderation effect by type of company, while, for this type of leadership with respect to the scope of effectiveness, a greater effect could be found in the type of private company than in public.

Consequently, hypothesis H11: The type of company moderates the relationship between transactional leadership and the effort of the members of the organization, is rejected, since there is no evidence of changes. Regarding H12: The type of company moderates the relationship between transactional leadership and the effectiveness of the members of the organization, it is accepted, given that

evidence was found, to affirm that the private company category achieves a higher rate of effectiveness in reason for this type of leadership.

Referring to the results obtained in the analysis carried out in this research, Hair et al. (2019) and Chin (1998) recognize values for the interpretation of the regression coefficients in the following ranges: 0.25, as weak, 0.50, as moderate, and 0.75 as substantial; In this sense, the results showed a significant moderate incidence of transformational leadership in effort and effectiveness (0.663, and 0.741), respectively, that is, followers perceive a positive influence against the transformational leadership exercised by the leaders, to achieve an extra effort and achieve the effectiveness that the organization requires (Willman Carvajal & Velasco Arango, 2011; Saavedra Mayorga, 2019).

What was found is related to the study by Ramírez Méndez (2013) who states that the exercise of leadership favors the structuring of the perceptions of the collaborators, this in the sense of the adequacy in the processes and command that are required to achieve compliance with the required tasks.

This makes sense, given that, on the other hand, there are some cases in which poorly exercised leadership is poorly perceived by people, who tend to have rejection, little acceptance and lack of commitment (Capcha-Hinostroza, 2020) this due to improvised leadership styles, which do not have a work methodology and strategies, to promote in collaborators how to reach the required goals (Montoya Agudelo & Boyero Saavedra, 2016).

Likewise, the results showed a significant but weak incidence of transactional leadership in relation to effort and effectiveness (0.183 and 0.157) respectively, in other words, the type of transactional leadership has a significant, but weak incidence in followers with respect to the achievement of extra effort and effectiveness in their daily tasks, this may be due to the impact of the characteristics that support this style of leadership. For Bass and Avolio (1990) these particularities are governed by a reward system for the achievement of objectives or a specific performance; and, according to Cuadrado and Molero (2002) when applying this transactional style, one does not work looking for changes in the culture, but works with the existing culture; These mentioned characteristics and precisions help to understand to a certain extent that the set of conceptual aspects and components that this style of leadership brings does not obtain a substantial response from the followers in this case. What was found is related to what was addressed by Burns (1978) cited in Norena et al. (2021) who states that transformational and transactional leadership styles are mutually exclusive, since the first approach promotes proactive and positive behaviors that result in better levels of job performance and the second focuses on the exchange of rewards, managed by the manager leader in favor of followers, conditioned by results and achievement of goals.

Conclusions

Leadership styles are configured as the independent variables and effort and effectiveness as the dependent variables. In addition, it was analyzed whether the gender and the type of company have a moderating effect on these relationships. In a representative sample of 519 employees from various companies, the transformational leadership style was shown to have a positive, moderate, and significant effect on employee effort and effectiveness. Likewise, transactional leadership exerts a positive, significant but weak effect on the dependent variables.

Regarding the analysis of moderation, it was evidenced that gender moderates the relationship between transformational leadership and the effort of the members of the organization; as well as the relationship between transactional leadership with effort and effectiveness. No evidence of any moderating effect of gender between transformational leadership and perceived effectiveness was found. On the other hand, the analysis of moderation of the type of company, allowed to demonstrate that this variable affects the relationship between transformational and transactional leadership with the effectiveness of the members of the organization. On the other hand, no evidence of any moderating effect of the type of company was found in the relationship between leadership styles and effort.

Although a rigorous methodology was followed that shows reliable and generalizable results, there are limitations that future research must address. In the first place, a cross-sectional study was carried out, which makes it impossible to know the evolution over time of the relationships analyzed; in future studies it is recommended to apply a longitudinal study. A second limitation is that the variables perceived effectiveness and effort of the followers were analyzed, which although they provide relevant inputs for decision-making related to the management of human talent, should be expanded with the analysis of other variables of importance for organizational behavior such as job satisfaction, commitment, employee well-being, among others. As future lines of research, it is hoped to continue researching on organizational leadership, applying the instrument to other companies to expand the empirical data presented on this occasion.

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