




Article

Transactional Leadership and Innovative Behavior as Factors Explaining Emotional Intelligence: A Mediating Effect

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Abstract: This research aimed to determine the mediating effect of innovative behavior on the relationship between transactional leadership and emotional intelligence in a SARS-CoV-2 context. During this period, behavioral issues among and between employees have been modified in a way that transactional leadership and innovative behavior were considered differently as factors explaining emotional intelligence. This research gap gave room for additional research to re-define the hypothesis of an existing mediating effect between these issues. In fact, as the empirical part of the research has proven, there is evidence of a mediating effect on the relationship of these variables in the sample used. A random sample of 403 owners of textile companies from the Gamarra Commercial Emporium in the district of La Victoria in Lima, Peru, was used to test the existing model regarding the factors explaining emotional intelligence. Data were evaluated by partial least squares structural equation modeling (PLS-SEM). It was determined that innovative behavior has a total mediating effect on the relationship between transactional leadership and emotional intelligence and that 15.9% of the variance of the emotional intelligence variable is explained by the model. This study theoretically contributes to the literature and provides empirical evidence of the relationship between the variables included in the model. Likewise, the model of the variables generated is useful both for the academic and business worlds; yet it must be strengthened and improved by adding more variables. This research contributes to deepening the understanding of the relationship between emotional intelligence, transactional leadership, and innovative behavior in the textile field during the SARS-CoV-2 period.

Keywords: transactional leadership; innovative behavior; emotional intelligence; mediating effect; textile companies



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1. Introduction

During SARS-CoV-2 period, most of the industries have faced unusual problems related to behavioral factors, additional protection issues, delays in decision making procedures and lack of confidence in personal interrelations among the employees at any level. Existing literature was limited, or non-existent, on the issues of leadership and innovative behavior as factors explaining emotional intelligence. This study is designed to cover this gap using a well selected dataset from the textile industry. The research novelty refers to the study period, where behavioral characteristics have been affected from the uncertain employment conditions related to the SARS-CoV-2 pandemic.

To do business sustainably, owners of companies have to work with emotional intelligence and leadership. Boyatzis et al. (2000) defined emotional intelligence as our ability to recognize our own feelings and the feelings of others, the ability to motivate oneself and the ability to manage the emotions of oneself and others well. Leaders who are effective at transactional leadership understand the requirements for their followers to attain their goals and make those expectations very clear. Workplace efficiency and productivity could

increase under such a leader, but these benefits would be superficial in comparison to what could be achieved under a really transformational leader (Silins 1994).

The Gamarra Commercial Emporium (GCE) is the main textile cluster in Peru. According to Norena-Chavez and Guevara (2020), the GCE concentrates about 45,000 textile companies. Despite the SARS-CoV-2 pandemic, textile imports arriving from China, and other negative exogenous variables, GCE textile entrepreneurs have managed to adapt to changes and survive. Variables such as Transactional Leadership, Innovative Behavior and Emotional Intelligence are essential for sustainability in developing economies under these conditions.

The study used this cluster as a case study to examine the structure and the development of the relationship of the variables in the title of the study by using well established econometric techniques, such as the partial least squares structural equation modeling (PLS-SEM) which is one of the methods used by other researchers for this kind of analysis. The results support the hypothesis that innovative behavior has a total mediating effect on the relationship between transactional leadership and emotional intelligence and that 15.9% of the variance of the Emotional Intelligence variable is explained by the model. The effect size is low (0.17) as well as the predictive power (0.084). It was concluded that the effect is moderate; however, the power is still low.

This research has been conducted to: (a) to determine the mediating effect of innovative behavior in the relationship between transactional leadership and innovative behavior; (b) to theoretically contribute to the literature and provide empirical evidence of the relationship between the variables included in the model; and (c) to contribute to a better understanding of the interrelationships of the variables, which influences the managerial role. This research had the following objectives: (a) to determine the relationship between innovative behavior and emotional intelligence; (b) to determine the relationship between transactional leadership and innovative behavior; (c) to determine the relationship between transactional leadership and emotional intelligence; and (d) to determine the mediating effect of innovative behavior on the relationship between transactional leadership and emotional intelligence

2. Literature Review

According to Avolio et al. (2009), transactional leadership relies on performance-based rewards. Kuhnert and Lewis (1987) concluded that transactional leadership is the most used to explain the cost-benefit relationships between leaders and followers. For transactional leadership to exist, there must be a value transaction between the leader and their followers (Yukl and Van Fleet 1992).

Hou et al. (2020) determined that emotional intelligence has a moderating effect on innovative behavior; they used a sample of 125 employees from two Chinese companies in the cities of Shenzhen and Nanchang. For her part, Malik (2021) concluded that innovative behavior is positively and significantly related to emotional intelligence; the sample consisted of 171 workers from Indian technology companies and she used structural equation modeling for data analysis. For their part, Sparks and McCann (2021) concluded that emotional intelligence has a positive and significant effect on innovative behavior; they used a sample of 306 engineers from an American professional organization and the data were analyzed using multiple regression.

Hansen and Pihl-Thingvad (2018) studied the implementation of programs related to innovative behavior and leadership styles in a Danish municipality, and concluded that the multidimensional nature of the behaviors of transactional public leaders was positively related to their innovative behaviors. Norena-Chavez et al. (2021) analyzed the relationship between innovative behavior and leadership styles in a sample of 353 cadets from the Military School of Chorillos in Lima, Peru. They used the PLS-SEM statistical tool and came to the conclusion that transactional leadership has a positive and significant influence on innovative behavior. Similarly, Norena-Chavez et al. (2022) explored the relationship between innovative behavior and leadership styles in a sample of 103 mid-level command

officers of the Peruvian Army. They used the PLS-SEM and concluded that transactional leadership has a positive and significant influence on innovative behavior.

Mukhtar and Fook (2020) studied the relationship between leadership styles and emotional intelligence by surveying 360 teachers from Selangor, Malaysia, and found that transactional leadership and emotional intelligence are positively related. Pan et al. (2020) examined the relationship between leadership styles and emotional intelligence in southern Thailand through a survey of 133 dentists; they concluded that there is indeed a positive and significant relationship between both aspects. Blake and Mouton (1964) developed the leadership grid. Each side has 10 levels. The *y*-axis reflects employee relations, while the *x*-axis shows task concerns (achievement of objective). Five leadership styles arise from combining these two axis' levels. Leadership is a function of relationship and task conduct, according to Hersey and Blanchard (1969). High relationship, low task, high task, low relationship, follower maturity (high, moderate, low), and leader style (delegate, participate, sell, and tell). In this view, leadership styles come from task and relationship behavior and follower maturity. It also considers seven grounds of a leader's power: expert, data-based, referent, genuine, reward-based, connection-based, and coercive. Tannenbaum and Schmidt's (2017) concluded that leadership theory measures leadership based on whether it focuses on the boss or the subordinate. The authors provided a 1–7 scale. One end of the scale emphasizes the manager's power; the other highlights the subordinate's decision-making independence. The foundation of transactional leadership is an exchange relationship in which the leader conveys his or her expectations of the followers (Bass 1999). The most significant aspect of this form of leadership is contingent compensation. This aspect indicates that the leader concentrates on trading resources (compensation, material and intangible assistance) for the efforts and performance of his or her team members. In other words, it provides incentives when objectives are met. In addition, it involves management by passive exception, in which the leader watches performance and takes remedial action as needed. In addition, it is centered on defining what constitutes successful performance. It entails identifying mistakes and implementing rapid corrections. In a nutshell, transactional leadership (Burns 1978) is a more conventional method of persuading followers through a transactional incentive that is frequently effective at meeting lower-order requirements.

Innovation is a process that has direct effects on an organization's practices, methods, products, and services, hence enhancing its productivity (Axtell et al. 2000). Some studies, including Balsmeier and Woerter (2019), analyzed the impact of innovation on business performance while taking into account the size of the firm, whether it be small, medium, or large. These studies are significant because they examined the impact of creative behavior on organizational success, not only in a single company size, but also in organizations of various sizes and geographic locations. However, academics offer conceptual obstacles when attempting to describe innovation, such as in the service industry. It is essential to reference this study since it defined innovation in services and helped identify the factors that drive its adaption (Coad et al. 2019). According to Scott and Bruce (1994), innovation involves identifying a problem and presenting new ideas, gaining external and internal support, and creating a prototype that benefits the business. Innovative behavior begins with recognizing an issue, producing ideas, and prototyping for the company (Burns 1978). Innovative conduct involves observing, listening, changing, and seeking allies (Messmann and Mulder 2011).

Mayer and his coworkers reported the first emotional intelligence studies (Mayer et al. 1990). Early intelligence researchers knew there was more to intelligence than the mental ability measured by typical IQ tests. Gardner (1983) proposed that people had interpersonal and intrapersonal intelligence seven years before Salovey and Mayer. Emotional intelligence was initially a subcategory of social intelligence, according to Salovey and Mayer (1990). Emotional intelligence is the ability to notice, comprehend, and apply emotional information about oneself to improve performance (Boyatzis 2009). Emotional intelligence

is a general competence in identifying emotions that helps us to control emotions and cope well with emotional circumstances (Zeidner et al. 2012)

Based on the remarks above, the following hypotheses were developed: (a) Innovative behavior positively influences emotional intelligence; (b) Transactional leadership positively influences innovative behavior; (c) Transactional leadership positively influences emotional intelligence; (d) Innovative behavior has a mediating effect on the relationship between transactional leadership and emotional intelligence.

3. Materials and Methods

3.1. Data Collection

As dataset we have used 403 owners of textile companies from the Gamarra Commercial Emporium in the district of La Victoria in Lima, Peru, surveyed in person with a structured questionnaire. Participants were duly informed of the survey and agreed to answer the questions. They were assured that the answers would be used for research purposes and remain anonymous under rigorous processes that would entail no liability for them in the future. All participants signed the informed consent before the surveys were conducted. We used a cluster sampling technique because it divides the population into smaller subgroups, but the subgroups in a cluster sample should share many of the same features. Selecting entire subgroups at random is an alternative to randomly selecting individuals from each subgroup.

3.2. Data Analysis

The research was based on a quantitative methodology using a correlational-explanatory, cross-sectional and deductive logic approach (Creswell 2002). Given the objective of the research, the nature of the variables and the existence of statistically validated scales to measure the relationship of the variables, the partial least squares structural equation modeling of Hair et al. (2019) for multivariate data analysis technique was used. The Innovative Behavior variable was measured by nine items derived from the Scott and Bruce (1994) scale on a Likert scale ranging from 1 = not at all to 5 = frequently, if not always. To assess the Transactional Leadership variable, the Avolio and Bass (2004) MLQ-5X Short Form was used; the questionnaire consists of 45 items, of which 36 refer to leadership styles and nine to leader performance on a Likert scale ranging from 1 = not at all to 5 = frequently, if not always. This study included only the answers related to the transactional leadership style contained in this instrument. Emotional intelligence was assessed through the Schutte et al. (1998) SSEIT consisting of 33 items on a Likert scale ranging from 1 = not at all to 5 = frequently, if not always. Finally, the Smart PLS 3.3.3 software Ringle et al. (2015) was used for data analysis.

4. Results

4.1. Assessment of the Measurement Model

The measurement model was assessed considering the following criteria: (a) evaluation of outer loads, (b) internal consistency using Cronbach's alpha and composite reliability, (c) convergent validity using the average variance extracted (AVE), and (d) discriminant validity using the Fornell–Larcker criterion and the HTMT.

Outer loads were evaluated using the Hulland (1999) criterion, according to which loadings should be above 0.708. High outer loadings on a reflecting construct indicate the associated indicators have much in common, which is captured by the construct. The indicators between 0.40–0.70 in this case did not increase the internal consistency reliability or convergent validity and hence they were removed. To measure the reliability of internal consistency with indicators of equal or different loadings, the Cronbach's alpha and composite reliability criteria were used, exceeding in both cases the 0.7 threshold established by the theory (Cronbach 1951; Jöreskog 1971). The degree to which a latent construct explains the variance of the indicators (convergent validity) was measured using

the AVE; [Hair et al. \(2019\)](#) determined that only indicator loadings greater than 0.5 indicate acceptable convergent validity.

Table 1 shows the model's variables, the indicators, outer loads, composite reliability and convergent validity. These values show that the proposed measurement model is reliable and valid (convergent validity).

Table 1. Assessment of the measurement model through reliability and validity.

Variables	Indicators	Outer Loads	CRONBACH'S ALPHA	Composite Reliability	AVE
Innovative Behavior	IB-1	0.81	0.93	0.95	0.72
	IB-3	0.86			
	IB-4	0.84			
	IB-5	0.87			
	IB-6	0.87			
	IB-7	0.84			
	IB-9	0.85			
Emotional Intelligence	IE19	0.83	0.76	0.86	0.68
	IE22	0.79			
	IE24	0.84			
Transactional Leadership	TransL22	0.77	0.7	0.83	0.63
	TransL24	0.86			
	TransL27	0.73			

The discriminant validity was assessed using two criteria: (a) HTMT and (b) Fornell and Larcker. HTMT indicators should be below 0.85 to establish discriminant validity (2019). On the other hand, according to the Fornell and Larcker criterion, discriminant validity is established when the square root of the AVE of each construct is greater than the correlation between the constructs ([Fornell and Larcker 1981](#)). Table 2 shows the discriminant validity measured by both criteria.

Table 2. Fornell and Larcker criterion to assess discriminant validity.

Variable/Criterion	HTMT			Fornell-Larcker		
	IB	EI	TransL	IB	EI	TransL
Innovative Behavior (IB)				0.85		
Emotional Intelligence (EI)	0.46			0.40	0.82	
Transactional Leadership (TransL)	0.43	0.24		0.35	0.13	0.79

4.2. Assessment of the Structural Model

The structural model was assessed considering the following criteria: (a) estimation of path coefficients, (b) analysis of the mediating effect, (c) coefficient of determination (R^2), (d) effect size (F^2), and (e) predictive relevance (Q^2). Figure 1 shows the prediction of transactional leadership on innovative behavior with an explained variance of 0.159. Innovative behavior and emotional intelligence were taken as control variables; they were observed as carefully as the dependent variables.

The bootstrapping method was adopted with a resampling of 5000 interactions to estimate the significance of the path coefficients ([Hair et al. 2019](#)). It was concluded that: (a) innovative behavior positively influences emotional intelligence and has the highest effect with a path coefficient of 0.40; (b) transactional leadership positively influences innovative behavior with a path coefficient of 0.30; (c) transactional leadership has no statistically significant relationship with emotional intelligence. Table 3 shows the results of applying the bootstrapping method to the model.

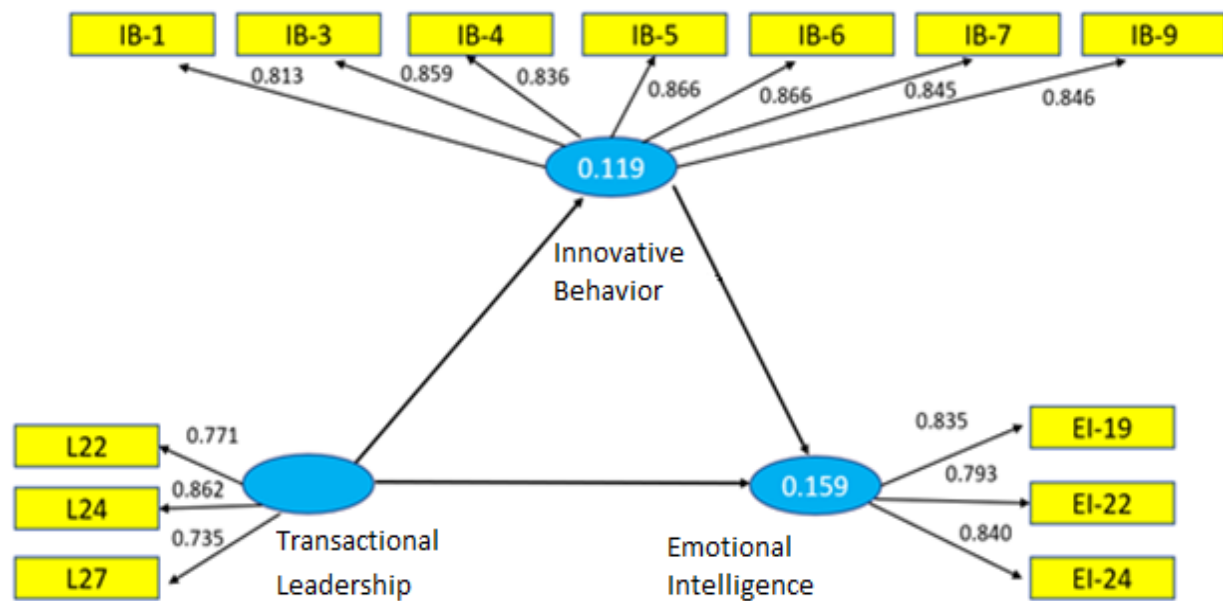


Figure 1. Mediation Model.

Table 3. Path coefficients and bootstrapping results.

Relationship between Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistic (O/STDEV)	p Values
H1: IB → EI	0.4	0.4	0.1	4.2	0.0
H2: TransL → IB	0.3	0.4	0.1	3.5	0.0
H3: TransL → EI	0.0	0.0	0.2	0.1	0.9

Table 4 shows that the indirect effect is statistically significant; therefore, the Innovative Behavior variable has a total mediating effect, as the direct effect is not statistically significant.

Table 4. Mediating Effect.

H4: IB's Mediating Effect	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistic (O/STDEV)	p Values
Direct effect	0.0	0.0	0.2	0.1	0.9
Indirect effect	0.1	0.2	0.1	2.6	0.0
Total effect	0.1	0.1	0.2	0.7	0.5

The coefficient of determination R^2 is 0.159, indicating that 15.3% of the variance of the Innovative Behavior variable is explained by the model (Hair et al. 2013). The F^2 measurement statistic reached a value of 0.17, which means that the effect size of this variable is moderate (Hair et al. 2019). Finally, the model's predictive power, evaluated using the Q^2 obtained through the blindfolding technique, reached a value of 0.084, which means that the model has a low predictive power (Hair et al. 2013). Therefore, based on the empirical results presented above hypothesis 1, "Innovative behavior positively influences emotional intelligence", is validated. Hypothesis 2, "Transactional leadership positively influences innovative behavior", is also validated. Hypothesis 3, "Transactional leadership positively influences emotional intelligence", is rejected. Hypothesis 4, "Innovative behavior has

a mediating effect on the relationship between transactional leadership and emotional intelligence, is accepted.

5. Discussion

This research proposed a conceptual model to determine the factors that influence the relationship between innovative behavior, emotional intelligence and transactional leadership in the textile industry of a developing economy. This is the first in the world to look into the mediation effect of innovative behavior in the relationship between transactional leadership and emotional intelligence among textile entrepreneurs.

Based on the evidence, the findings of this study confirm the positive and significant relationship between innovative behavior and emotional intelligence (H1). This hypothesis is supported by previous research (Hou et al. 2020; Malik 2021; Sparks and McCann 2021). Many other studies support the hypothesis that transactional leadership positively and significantly influences innovative behavior (H2), which was also proven by the present study (Hansen and Pihl-Thingvad 2018; Norena-Chavez et al. 2021, 2022; Thapa and Parimoo 2022). In contrast, transactional leadership and innovative behavior (H3) show no statistically significant relationship, so the hypothesis is rejected; however, this result contrasts with the findings of previous research (Norena-Chavez et al. 2021, 2022; Mukhtar and Fook 2020; Pan et al. 2020). Finally, it was concluded that innovative behavior has a total mediating effect in the relationship between transactional leadership and emotional intelligence (H4); therefore, the hypothesis was confirmed.

6. Conclusions

This research is the first in the world to assess the mediating effect of innovative behavior on the relationship between transactional leadership and emotional intelligence. It was determined that innovative behavior has a total mediating effect on the relationship between transactional leadership and emotional intelligence and that 15.9% of the variance of the Emotional Intelligence variable is explained by the model. As the effect size is 0.17 and the predictive power is 0.084, it was concluded that the effect is moderate and the power is still low.

On the other hand, a predictive and explanatory model was built, and it may lay the foundation for future models. This study theoretically contributes to the literature and provides empirical evidence of the relationship between the variables included in the model. Likewise, the model of the variables generated is useful both for academia and the business world, yet it needs to be strengthened and improved by adding more variables. Likewise, this research contributes to a better understanding of the interrelationships of the variables, which influences the managerial role.

These findings suggest that much remains to be understood about Peruvian textile entrepreneurs and that the variables studied have an impact on the Peruvian textile entrepreneurial ecosystem. Given the relative scarcity of available integrative research, this study responds to the numerous calls from scholars to ascertain the mediating mechanisms through which transactional leadership impacts emotional intention in the textile industry. To the best of the authors' knowledge, previous empirical studies in the textile industry have not incorporated the identified mediator into a single model to explain the impact of entrepreneurial self-efficacy on entrepreneurial intention. Consequently, there is still a limited understanding of the different routes that link both variables in this context. Hence, the government and academia should generate training policies so that textile entrepreneurs can enhance soft skills such as emotional intelligence, transactional leadership and innovative behavior in order to improve business sustainability.

7. Limitations and Further Research

The research's main limitation was that it was carried out in one single textile cluster of a particular geographical region of the world, the Gamarra Commercial Emporium in Lima, Peru. Furthermore, the sample, framed in a SARS-CoV-2 context, consisted of entrepreneurs

with more than five years of operation. It is recommended that future research may address entrepreneurs with fewer years of operation, use the creativity variable as moderation in the relationship, and be based on a qualitative methodology to determine the profile of the Peruvian textile entrepreneurs in the Gamarra Commercial Emporium.

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