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The mediating effect of organizational culture of effectiveness on the relationship
between innovative work behavior and transformational leadership
By

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A thesis
Submitted in partial fulfillment of the requirements for the degree of Master of Science
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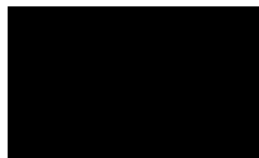   Day   Month   Year

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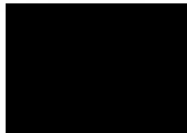
DEDICATION

To my parents, who sacrificed everything to ensure my sister and I had the best
education.

- To my late father, my role model, my guardian angel, and my papi who always
  encouraged us to be the best versions of ourselves, be independent, always seek
  to learn new things to expand our knowledge and prioritize our education above
  everything else.

- To my mom, my rock, and my best friend who put her life on hold to raise us and
  give us the quality of life where we can focus on our education and excel at it.

To my sister, my biggest support system who believes in me and encourages me to
always seek new challenges and pursue higher degrees.

To my advisor Dr. Silva Karkoulian, whose support and belief in me throughout this
journey has been a humbling experience. I can't thank you enough for everything that
you do.

LAU, my second home since 2013 has been there for me through the darkest times and
ensured we had access to its unrivaled education.

The mediating effect of organizational culture of effectiveness on the relationship
between innovative work behavior and transformational leadership

Katia El Awar

ABSTRACT

In these times of uncertainty in which change is the only constant, sustaining one's
business and succeeding in a competitive market has been challenging. Innovative work
behavior has become increasingly critical, and businesses had to find different ways to
encourage their employees to engage in such behavior to achieve their goals and reach
their objectives despite the drawbacks. This study aims to examine the relationship
between transformational leadership, innovative work behavior and organizational
culture of effectiveness. The main aim is to investigate the role of organizational culture
of effectiveness as a mediator in the relationship between transformational leadership
and innovative work behavior, especially that to the best of our knowledge, this is the
first study to examine such mediating effect in the UAE. Furthermore, this research
examines the theoretical importance of applying transformational leadership to
maximize the employees' innovation and creativity through shaping organizational
culture. A total of 336 questionnaires were collected and analyzed using SPSS. Findings
indicate that there's a positive relationship between transformational leadership and both
organizational culture of effectiveness and innovative work behavior. Similarly, there's
a positive effect between organizational culture of effectiveness and innovative work
behavior. Moreover, organizational culture of effectiveness mediates the relationship
between transformational leadership and innovative work behavior. We conclude a
complementary mediation and thus all hypotheses were supported. Finally, this research

discusses the limitations, as well as the theoretical and managerial implications, and concludes with recommendations for future research on this topic.

Keywords: Transformational Leadership, Innovative Work Behavior, Organizational Culture of Effectiveness, United Arab Emirates.

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Chapter One

Introduction

Innovative work behavior is an important asset for organizational success and effectiveness (Liu, Wang, & Chen, 2019). It is described as the engine that runs organizational innovativeness (Gashema & Mokua, 2019). The lack of innovation can ultimately lead to a business failure (Baety & Rojuaniah, 2022).

Numerous studies have established the critical role of innovative work behavior for organizational sustainability and resilience particularly with the emerging era of global competition. Innovative work behavior is influenced by several factors, of which leadership is an important one. Transformational leadership is a type of leadership which was suggested to stimulate the employees' innovative behavior (Ariyani & Hidayati, 2018).

The transformational leaders motivate and encourage the employees to implement innovative changes in response to work demands and reward creativity (Tan, Dun, & Wilderom, 2021). In spite of this, the positive relationship between transformational leadership and innovative work behavior remains inconsistent between studies and there are still no empirical and conclusive findings. Nevertheless, the significant role of transformational leadership on innovative work behavior is mediated by organizational culture (Khan, Ismail, Hussain, & Alghazali, 2020). While transformational leadership is associated with innovation, it is argued that transformational leaders aiming to replenish

their institutions, strive to develop, improve, and retain a desired organizational culture that progresses innovation and creativity (Khan, Ismail, Hussain, & Alghazali, 2020). Previous studies have examined the mediating effect of organizational culture on the relationship between transformational leadership and innovative work behavior across different cultures such as Australia (Sarros, Cooper, & Santora, 2008) and Iran (Imran & Anis-ul-Haque, 2011). Other studies examined organizational culture as a mediator on the relationship between transformational leadership and other variables such as organizational citizenship behavior (Esmi, Piran, & Hayat, 2017) and organizational effectiveness (Shirini & Xeinkou, 2022). The relationship between transformational leadership and innovative work behavior has also been examined on an organizational level (Jung, Chow, & Wu, 2003) (Gumusluoglu & Ilsev, 2009). There is insufficient literature in the non-western context (Selllgren, Ekvall, & Tomson, 2008) (Griffin, Neal, & Parker, 2007), and thus exploring the latter is important. Furthermore, limited evidence exists on the meditating effect of organizational culture of effectiveness between transformational leadership and innovative work behavior in the UAE. Therefore, this cross-sectional study aims to investigate the effect of transformational leadership on employee innovative work behavior as well the mediating role of organizational culture of effectiveness on the relationship between the two among employees residing and working in the United Arab Emirates.

This research also examines the theoretical importance of applying transformational leadership to maximize the enhance the employees' innovation and creativity through shaping organizational culture of effectiveness. The next section further presents the hypotheses of this research.

Chapter Two

Literature Review

2.1. Transformational Leadership

Over the years, the definition of leadership has evolved. It has evolved and grown from being a trait theory to becoming a behavioral theory (Pradhan, Panda, & Jena, 2017). Leadership as a process occurs when members acknowledge and accept their leader to ensure common goals are achieved (Silva, 2016). Within leadership, there exists several styles that can be adopted within an organization; one of which is transformational leadership. Transformational leadership enhances the moral levels of both the leader and the subordinate since it is the perfect medium that offers value exchange and growth between both parties and is based on respect and trust (Umrani, Waheed, & Masood, 2019). It describes transporting employees to a higher level of motivation that empowers and inspire them to push themselves and stimulate their intellectual abilities to achieve the desired goals (Schuckert , Taegoo, Paek, & Lee, 2018). Also referred to as charismatic leadership since subordinates follow their leaders' actions, such leadership can transform people's efforts positively for their own benefit as well as that of the company they work in (Khan, Ismail, Hussain, & Alghazali, 2020). Transformational leaders play an active role in helping employees reach their full potential. To help achieve higher levels of performance, transformational leaders motivate their employees and assist them by creating a suitable and trustworthy working environment (Umrani, Waheed, & Masood, 2019). They provide them with the right tools, support and

guidance that lay down the foundation to a collective mindset that convinces and pushes employees to go beyond fulfilling their job's short-term goals but also the organization's long-term goals.

2.2. Innovative work behavior

"In the rapidly changing world, one will fall behind if he/she is not innovative" (Li, Bhutto, Nasiri, Shaikh, & Samo, 2018). In these times of uncertainty in which change is the only constant, sustaining one's business and succeeding in a competitive market has been challenging. Businesses had to find different ways to achieve their goals and reach their objectives despite the drawbacks. To do so, employees have been encouraged to engage in innovative work behaviors to improve the current state (Afsar & Umrani, 2020). Innovative work behavior has become increasingly critical because of several factors that include globalization, economical changes, and competing demands growth (Woods, Mustafa, Anderson, & Sayer, 2018). And many organizations are increasingly motivating their employees to improve their overall performance by encouraging them to come up with new ideas that would ultimately improve the quality of the work and services they provide (Edghiem & Mouzughi, 2018).

Innovative work behavior is the implementation of new techniques and methods through new ideas and technology in the workplace (Afsar & Umrani, 2020). It is recognized as a multifaceted and dynamic concept that encompasses creativity and provokes thinking and coming up with ideas by employees individually and collectively to achieve the common goal, advance in current processes, and positively impact the entire

organization (Khan, Ismail, Hussain, & Alghazali, 2020). Heavily influenced by its respective organizational management (Khan, Ismail, Hussain, & Alghazali, 2020), generating new ideas through creativity can only be achieved when complex cognitive processes are executed with the help of the appropriate strategies and problem-solving techniques that are the prerequisites to creative thinking improvement (Mumford, Medeiros, & Partlow, 2012). Through creative ideation and implementation, innovative behavior is triggered (Khalili, 2017). When employees use their innovative abilities and adopt innovative work behavior, they produce new ideas that lead to organizational success when implemented to improve existing operations from work procedures to services provided (Janssen, Van de Vliert, & West, 2004).

2.3. Transformational Leadership & Organizational Culture of Effectiveness

There are specific skills that transformational leaders should possess to be the role models their subordinates need them to be. During times of crisis, everyone in an organization would rely on the leader to not only get out of that crisis but also to avoid adverse outcomes. However, at times, the organizations fail to realize that the leader whose help they need might not be the right person with the leadership style required to manage such a crisis (Bowers, Hall, & Srinivasan, 2017). When the leader's personality is of deviant behavior, this will be translated directly on the organizational culture (Esmi, Piran, & Hayat, The mediating effect of organizational culture on the relationship between transformational leadership and organizational citizenship behavior, 2017). For employees to have a meaningful job, they should be mentored and directed in a way that makes them trust their leaders and feel confident about their leadership (Pradhan, Panda,

& Jena, 2017). Transformational leaders empower their employees and provide them with the autonomy they need to make decisions, act on them, and perform their jobs. They create a sense of trust within their subordinates by prioritizing individual consideration through mentorship, support with problem-solving of both personal and professional challenges, and especially active listening (Pradhan, Panda, & Jena, 2017). As role models, they foster an inspiring environment that puts the organizational needs above all else; and urges employees to excel at their jobs and be the perfect examples of good performance that goes beyond individual self-interest (Nassif, Hackett, & Wang, 2021). They motivate employees to work passionately and collectively as one identity that enhances teamwork and communication, inspires pursuing organizational needs, and ultimately improve performance on both: teams and organizational levels (Umrani, Waheed, & Masood, 2019). With the help of their charismatic personalities, they push their subordinates to perform beyond expectations and work in ways that have the organization's best interest as a priority. The leading opportunities for innovation in businesses are established by managers who know how to favorably influence the climate of innovation and work behavior supportive of innovativeness, which may ultimately improve organizational performance (Shanker, Bhanugopan, van der Heijden, & Farrell, 2017). Therefore, transformational leaders are key drivers of an organization's success or failure. Keeping the organization's vision, mission, and objectives in mind, they are the pioneers of organizational change: they motivate, inspire, and encourage their employees to commit to the common purpose and achieve the desired goals (Abdullah, Shamsuddin, & Wahad, 2015).

The organizational culture of effectiveness plays a vital role in establishing the right environment where employees can learn, grow, improve, and thrive under the stewardship of organizational leaders who coach, support, and mentor them. The happiness and organizational commitment of the employee are significantly influenced by a robust corporate culture and transformational leadership methods – with culture having a superior influence on both happiness and commitment than leadership (Elkordy, 2013). Leadership has the power to create an organizational cultural transformation that can influence the overall performance of the company (Lasrado & Kassem, 2020). It has become a means used by supervisors and managers to communicate the cultural principles and values, which are crucial to sustainably developing the business and initiating necessary change whenever needed. Organizational culture is a way for leaders to change organizations without having to be the sole instigators, in which both leadership and organizational culture endorse the employee creativity (Sarros, Cooper, & Santora, Building a Climate for Innovation Through Transformational Leadership and Organizational Culture, 2008). In cultures where employee involvement in their job and with their coworkers is encouraged, employees develop a sense of ownership which ultimately increases their commitment & loyalty to the organization (Lasrado & Kassem, 2020).

Moreover, a sense of collectivism in accomplishing organizational goals can be sparked by leaders' influence on organizational culture and the workplace, which increases organizational success (Scott & Bruce, 1994). Employers should not only prioritize initiatives of employee empowerment, but also create settings in which staff members feel that their work matters and has value through perceiving self-efficacy and autonomy (Liu, Wang, & Chen, 2019).

In this context, the following hypothesis is suggested:

H$_1$: *There is a positive relationship between transformational leadership and organizational culture of effectiveness.*

2.4. Organizational Culture of Effectiveness & Innovative Work Behavior

Each organization has values, symbols, and myths that continuously vary with time (Esmi, Piran, & Hayat, The mediating effect of organizational culture on the relationship between transformational leadership and organizational citizenship behavior, 2017). The mutual values, beliefs, or perceptions held by the personnel within an organization or organizational unit are referred to as organizational culture (Robbins & Coulter , 2005). Similarly, organizational culture can affect the attitudes and conduct of individuals and direct their behavioral standards within an organization (Tsai Y. , 2011) (Khan, Ismail, Hussain, & Alghazali, 2020). It is when an organization encourages employee participation and rewards (Sinha, Priyadarshi, & Kumar, 2016). Organizational culture is an important factor that facilitates and supports employee empowerment. It establishes an environment that supports innovative behavior by encouraging employees to not only expand their knowledge and skills but also to provide them with the right platforms to implement them is critical (Afsar & Umrani, 2020).

Organizations are more likely to achieve higher levels of motivation, dedication, and employee engagement, which in turn leads to improved organizational performance if

they can create an organizational climate that people perceive as favorable (Shanker, Bhanugopan, van der Heijden, & Farrell, 2017). Cultures that prioritize growth, development, and collaborative decision-making are linked to higher levels of innovativeness (Hurley & Hult, 1998). Innovation is impacted by the organizational atmosphere when employee behavior is encouraged (Shanker, Bhanugopan, van der Heijden, & Farrell, 2017). Agility, invention, and creativity are critically dependent on positive cultural traits (Li, Bhutto, Nasiri, Shaikh, & Samo, 2018). Creativity alone is promoted in environments where failure is accepted and there is no fear of offering what could be a ridiculous idea (Shanker, Bhanugopan, van der Heijden, & Farrell, 2017). As a result, innovation can be enhanced when organizational ideals like learning, development, and participatory decision-making are encouraged and fostered (Hurley & Hult, 1998). Moreover, the awareness and acceptance of the organizational ethos by employees can have an impact on their attitudes and behavior at work (Tsai Y. , 2011). When there is strong communication between management and staff, the latter will contribute more to teamwork and collaboration and will be motivated to complete the organization's mission and goals, which will increase job satisfaction (Tsai Y. , 2011). A higher capacity for adaptation and innovation is linked to a firm's culture that values innovation more (number of innovations successfully implemented) (Hurley & Hult, 1998). Workers are more likely to engage in creative activities when organizational policies and norms encourage them to take the initiative and explore and develop new ideas, therefore the influence of innovation culture on employees' inventive work behavior would thrive (Gashema & Mokua, 2019). They would even go beyond roles and job descriptions and become the distinguishing factor between effective and ineffective firms (Esmi, Piran, & Hayat, The mediating effect of organizational culture

on the relationship between transformational leadership and organizational citizenship behavior, 2017).

In this context, the following hypothesis is suggested:

H$_2$: *There is a positive relationship between organizational culture of effectiveness and innovative work behavior*

2.5. Transformational Leadership & Innovative Work Behavior

Given the importance of innovative work behavior on individual and organizational levels, organizations have increasingly realized the critical role managers play in being the pioneers of such behavior and using it to achieve desired outcomes (Khan, Ismail, Hussain, & Alghazali, 2020). Organizational innovation is influenced by a variety of factors and one of the most crucial of these is top managers' leadership style (Jung, Chow, & Wu, 2003) . Leadership has been long thought of as a major stimulant that drives innovative behavior (Alheet, Al Adwan, Areiqat, Zamil, & Saleh, 2020). It influences employee behavior and innovative work behavior in the workplace (Alheet, Al Adwan, Areiqat, Zamil, & Saleh, 2020).

With greater employee involvement in the creative process, companies can expect to achieve speedier innovation, especially when leaders that empower their people have a beneficial impact on their inventiveness (Cheng, Cao, Zhong, He, & Qian, 2019). To operate confidently in a demanding innovation process, to constantly advance one's

understanding of the envisioned innovation and develop creative insights into it, as well as to maintain motivation through difficult innovation process phases, one must feel competent (Messmann, Evers, & Kreijns, 2022). By encouraging staff to think creatively and try new things, as well as by allowing them to develop an appropriate innovation strategy, transformational leaders can enhance the perception of autonomy (Messmann, Evers, & Kreijns, 2022). "Continuous achievement and perfection are the benchmarks designed and engrained by the top leadership" (Li, Bhutto, Nasiri, Shaikh, & Samo, 2018). "Inspirational motivation and intellectual stimulation enable followers for a broader vision, looking out of the box, resolving old puzzles with new solutions and perceiving from other paradigm" (Li, Bhutto, Nasiri, Shaikh, & Samo, 2018). Effective leaders can motivate their subordinates and inspire them to produce fresh concepts that re-visit and challenge underlying problems in the workplace (Khan, Ismail, Hussain, & Alghazali, 2020). Through prioritizing employees and considering them as their most reliable resources, leaders instill trust amongst them which drives them to want to perform better and develop the competence needed for constant improvement (Pradhan, Panda, & Jena, 2017). To help their team members grow in confidence about what they can do and how they may improve regarding their contributions to innovation development, leaders may offer comments on their innovative ideas and their tactics for implementing innovative solutions (Messmann, Evers, & Kreijns, 2022). Even when the innovation process is stalled or mistakes have been made, leaders can boost employees' confidence by giving constructive, encouraging comments (Messmann, Evers, & Kreijns, 2022). By expressing respect for employees' ideas, even when they contradict established practices, transformational leaders can increase perceptions of competence among their workforce (Messmann, Evers, & Kreijns, 2022).

In this context, the following hypothesis is suggested:

H$_3$: *There is a positive relationship between transformational leadership and innovative work behavior.*

2.6. Organizational Culture of Effectiveness as a Mediator

Nowadays, a wide range of elements influences a company's performance, out of organizational culture and innovation are key elements. The latter affects the company's ability to lead the sector in which it operates today and promote creative work behavior. (Baety & Rojuaniah, 2022) . In the last 25 years, there has been a lot of academic discussion over the concept of culture, particularly in social scientific research (Pradhan, Panda, & Jena, 2017). Greater organizational commitment is fostered by organizations that encourage a sense of ownership and duty (Sinha, Priyadarshi, & Kumar, 2016). Academics and management professionals have recently shown a great deal of interest in studies on organizational culture and leadership characteristics, in which the two constructs were found to be positively correlated in earlier research, and the bulk of those studies concluded that organizational culture is influenced by leadership culture (Pradhan, Panda, & Jena, 2017). An innovative organizational culture can't exist on its own, it can only exist when it has the support of a leader and is an integral part of one's leadership style (Pei-Li, 2017). The outcome, however, may be disappointing if the leadership style used by management conflicts with the organizational objectives, values, and vision (Li, Bhutto, Nasiri, Shaikh, & Samo, 2018).

We had mentioned earlier that "Leadership is the process of interactive in influence that occurs when, in a given context, some people accept someone as their leader to achieve common goals". It is a process that only happens within a certain context, i.e., if the context changes, the process changes too (Silva, 2016). It is asserted that transformational leadership creates an organizational culture that has sense of purpose and a sense of family (Bass & Avolio, 1995). Because employees' demands are more readily met when their supervisors demonstrate a higher level of transformational leadership, this process of psychological empowerment and perception of an ambidextrous organizational culture can be facilitated by transformational leadership (Liu, Wang, & Chen, 2019).

However, further research is still needed to fully understand the psychological processes and underlying mechanisms that underlie how and why innovative behavior happens in organizations (Liu, Wang, & Chen, 2019). Genuineness, pro-activeness, independence, and teamwork ought to be encouraged (Pradhan, Panda, & Jena, 2017). The top management must empower employees psychologically by encouraging and developing a culture where they feel free to express their thoughts, actions, and emotions regarding the aspects of their operations linked to their job description (Pradhan, Panda, & Jena, 2017). Several organizational attributes should be considered when discussing transformational leadership (Lim & Moon, 2021), especially that when the work environment is challenging, innovative, results-oriented, and creative, it is considered an innovative organizational culture (Pei-Li, 2017).

Therefore, it is important to examine the organizational culture of effectiveness as a contextual variable that mediates the relationship between transformational leadership and innovative work behavior. Based on the above discussion and relevant studies, we ultimately hypothesize the following:

H_4: *Organizational culture of effectiveness mediates the relationship between transformational leadership and innovative work behavior.*

Chapter Three

Methodology

3.1. Sample and procedure

This study adopted a convenience sampling method to recruit participants. An anonymous web-based questionnaire was designed through Google forms and disseminated through social media platforms. The study protocol was approved by the research ethics committee at the Lebanese American University (LAU.SOB.SK8.27/Jun/2022). Participation was voluntary and the provision of informed consent was mandatory to access the questionnaire. The informed consent guaranteed participants that the gathered information would remain confidential and only be used for academic purposes. Data collection was carried out among employees living in Lebanon or the United Arab Emirates, during July 2022. A total of 336 individuals completed the questionnaire with a 100% response rate.

3.2. Instruments

The survey consisted of questions addressing sociodemographic characteristics (age, gender, occupational level, educational level, and years of employment) in addition to three validated self-reported instruments:

3.2.1. Organizational culture of effectiveness

An assessment of organizational culture of effectiveness was conducted using items from (Sashkin & Rosenbach, 2013) scale in which this scale measures the different

components of an organizational culture of effectiveness (change management, goal achievement, coordinated teamwork, shared values and beliefs, and customer orientation). This scale was chosen due to the high potential of most of these aspects to facilitate an environment conducive to change. Accordingly, an emphasis on customer orientation and change management is likely to favor the development of employees who will be better able to respond to customer needs (Franke & Park, 2006) or any organizational change (Armenakis & Harris, 2002). Furthermore, learning new skills and being prepared for potential changes may be facilitated by emphasizing goal achievement (Caldwell, Roby-Williams, Rush, & Ricke-Kiely, 2009), and employees may feel they have enough support to cope and adapt to change if teamwork is encouraged (Choi, 2011).

The respondents were asked to rate the degree to which each of these three items were present in their organizations, as part of this study in which a Likert scale format of 1= strongly disagree and 5= strongly agree was used and responses were averaged. Also, due to reverse wording in some items (see Supplementary Appendix), we reverse coded these items, in order to reflect the hypothesis formulation in the direction of the revealed relationships. Hence, higher scores indicated a more effective culture within an organization. The scale was alpha reliable to 0.88.

3.2.2. Transformational Leadership

As for transformational leadership, we used a shortlisted version of the original scale developed by (Bass & Avolio, 1995) to measure five of its components in this research study using a 20-item scale which is known for its reliability and validity. And these 20 items were measured using a 5-point Likert scale with 1= strongly disagree and 5=

strongly agree and were broken down into sections that featured five aspects of

transformational leadership. The five aspects included idealized attributes which

included statements such as "I go beyond self-interest for the good of the group",

idealized behaviors which included statements such as "I consider the moral & ethical

consequences of decisions", idealized motivation which incorporated statements such as

"I articulate a compelling vision of the future", intellectual simulation which included

statements such as "I seek differing perspectives when solving problems", and

individualized consideration which involved statements such as "I treat others as

individuals rather than just a member of a group".

3.2.3. Behavior and Strategic Innovation

Lastly, we used a questionnaire developed by (Wang & Ahmed, 2004) to measure

behavior and strategic innovation. It uses 5-point Likert scale, (1=strongly disagree,

5=strongly agree). This scale has a good reliability coefficient alpha of 0.87 for behavior

innovativeness and a satisfactory coefficient alpha of 0.63 for strategic innovativeness,

with an acceptance level of 0.60 (Price & Mueller, 1986). The responses of our survey

will be measured using a five-point Likert scale with 1 indicating Strongly Disagree and

5 indicating Strongly Agree.

3.3. Statistical analysis

Collected data were analyzed using the Statistical Package for the Social Sciences

software (SPSS) version 26.0 (IBM Corp, New York, USA). Descriptive statistics

(frequency count and percentages) were used to summarize sample sociodemographic

characteristics. Andrew F Hayes PROCESS was used in SPSS to test for mediation effect of organizational culture of effectiveness between transformational leader and innovative work behavior. To further confirm the findings, Partial Least Squares Structural Equation (PLS-SEM) method was used in testing the research model. PLS-SEM can produce good results in studies with small sample sizes such as the current study. Also, this method involves a two-stage analysis process: (1) measurement model assessment and (2) the structural model and hypothesis testing (Hair, G., Ringle, & Sarstedt, 2017).

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Chapter Four

Results

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4.1. Sample characteristics

In this study, a total of 336 employees completed the questionnaire. More than half of the participants were females (*n=*179, 53.3%). The majority aged between 25 and 34 years (*n=*224, 66.7%) and hold a Graduate degree (*n=* 275, 81.8%). Fifty-six percent of the participants were middle managers (*n=*188), following 30.1% (*n=*100) who were of supervisory level and 14% (*n=*47) in the top management level. The majority have been in their current job for 10 years or less (89.6%).

Table 1 Sociodemographic characteristics

Sociodemographic	
Age	***n* (%)**
18-24	27(8)
25-34	224 (66.7)
34-44	68 (20.2)
45-54	16 (4.8)
55-64	1 (0.3)
Gender	
Female	179 (53.3)
Male	157 (46.7)
Educational level	
Undergraduate	55 (16.4)
Graduate	275 (81.8)
Doctoral	6 (1.8)
Occupational level	
Supervisory	101 (30.1)
Middle management	188 (56%)
Top management	47 (14%)
Years of employment	
0-10	301 (89.6%)
10-20	18 (5.4)
20-30	7 (2.1)
>30	10 (3%)

4.2. Reliability Analysis on each Construct

The reliability results are displayed in Table 2 below. The data shows that the measures

are reliable as all Cronbach Alpha values are well above the minimum threshold of 0.7.

Table 2 Composite Reliability

Construct	Reliability
TL	0.887
BISI	0.773
OC	0.889

4.3. Mediation analysis using PROCESS

The path from transformational leadership to organizational culture of effectiveness was

positive and statistically significant (b=0.4531, SE=0.0514, p<0.001). The path from

transformational leadership to innovative work behavior is positive and statistically

significant (b=0.199, SE=0.719, p<0.001). The direct effect of organizational culture of

effectiveness on innovative behavior was also positive and statistically significant

(b=0.8074, SE=0.0692, p<0.001).

The indirect effect is tested using parametric bootstrapping. In the present study, the indirect effect of transformational leadership on innovative work behavior through organizational culture of effectiveness is positive and statistically significant with b=0.3659, SE=0.0534, 95% confidence interval: 0.2634-0.4628.
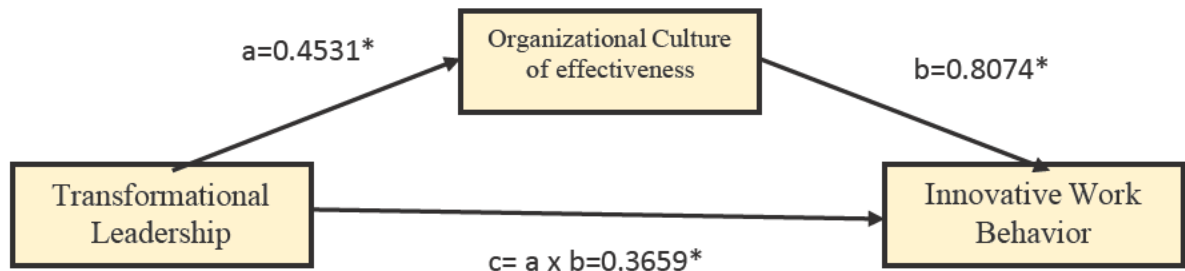
Figure 1 organizational culture of effectiveness mediates the relationship between transformational leadership and innovative work behavior.

*indicates p<0.001

4.4. Measurement model assessment using PLS-SEM

4.4.1. Exploratory Factorial Analysis using Kaiser-Meyer-Olkin test

The main objective for running Kaiser-Meyer-Olkin test is to validate the scales' factorial structures within our sample through assessing the scales' fit to our data. According to Kaiser-Meyer-Olkin test sample adequacy is achieved (KMO value >0.8) and all scales' factorial structures presented adequate results. Also, Barlett value is significant for all three scales.

Table 3 Exploratory Factor Analysis

Scale/ *Items*	KMO	X^2 (df)	Number of factors eigenvalue	Proportion	Cumulative
Transformational Leadership *20 items*	0.844*	2696.8 (190)	1 6.58	32.93%	32.93%
Behavior Innovation & Strategic Innovation *8 items*	0.843*	1464.42 (28)	1 4.10	51.29%	51.29%
Organizational Cultural of Effectiveness *30 items*	0.88*	5019.05(453)	1 9.29	30.99%	30.99%

*denotes p<0.001

In the evaluation of the measurement model, the method suggested by (Hair, G., Ringle,

& Sarstedt, 2017). was followed, and accordingly, values influencing the composite

reliability were removed from the model. Cronhbach's alpha and composite reliability

(CR) value for all scales are above the recommended limit value of 0.80. These results

indicate that the scales are acceptable in terms of internal consistency (Nunnually, 1978)

(Hair, Black, Babin, & Anderson, 2010). SRMR was found to be 0.07. This value is

below the recommended limit value of 0.10 or 0.08. Therefore, the proposed model fits

the data good (Hu & Bentler, 1998).

Table 4 Measurement model results using PLS-SEM

Scale	Cronbach's alpha	Rho_A	CR
Transformational leadership	0.88	0.89	0.89
Organizational cultural	0.92	0.93	0.93
Innovative work behavior	0.90	0.91	0.92

4.4.2. Structural model and Hypotheses Testing

When evaluating the structural model and hypotheses, the VIF (variance inflation factor) and R square were evaluated. The VIF values for organizational culture of effectiveness and transformational leadership were found to be 1.33 each which is less than the recommended threshold of 3.3. Thus, it may be understood that there is no multilinear connection problem as suggested by (Kock, 2015). R square for IWB and OC were 0.49 and 0.25, respectively. The bootstrapping method was utilized for hypothesis testing. The pertinent results are presented in table 5. There's a positive relationship between transformational leadership and organizational culture of effectiveness (b=0.502, p<0.001) and innovative work behavior (b=0.127, p<0.001). Similarly, findings showed a positive effect of organizational culture of effectiveness on innovative work behavior (b=0.629, p<0.001). Mediating analysis revealed a statistically significant positive effect of organizational culture of effectiveness on the relationship between transformational leadership and innovative work behavior (b=0.316, p<0.001). And since both direct and indirect effects of transformational leadership on innovative work behavior exist, we conclude a complementary mediation and thus all hypotheses were supported.

Table 5 Hypothesis Testing

Hypothesis	Path coefficients	Confidence Intervals-Bias Corrected	t-values
H1 TL→OC	0.502*	0.42-0.571	12.47

H2 OC→IWB	0.629*	0.551-0.695	16.71
H3 TL→IWB	0.127*	0.03-0.21	2.92
H4 TL →OC→IWB	0.316*	0.259-0.376	10.09

*indicates a p<0.001

Chapter Five

Discussion

The primary aim of this study is to investigate the relationship between transformational leadership and innovative work behavior and the mediating role of organizational culture of effectiveness in this relationship, among employees residing and working either in the United Arab Emirates.

The obtained findings showed, as expected, and hypothesized, that implementing a transformational leadership style has a positive impact on innovative work behavior. The more leaders and managers adopt a transformational leadership style in their work, the more employees will engage in innovative work behavior (Hui, Nazir, Wang, & Asadullah, 2019) (Afsar & Badir, 2014). In such cases, companies anticipate speedier innovation when employees are involved in the creative process and are driven to give the best of their abilities (Cheng, Cao, Zhong, He, & Qian, 2019).

In the full mediation model, the relationship between transformational leadership and innovative work behavior remained significant, however, with a weakened level of the path coefficients which further demonstrates the mediating effect of organizational culture. The latter confirms that transformational leaders endorse an organizational culture of effectiveness that prioritizes and facilitates the employees' abilities to improve

and implement their skills which subsequently positively impact their innovative behaviors.

Our findings are consistent with previous studies that uncovered the crucial role of transformational leadership in ensuring employees are passionate and creative to instigate an innovative work behavior (Reuvers, Van Engen, Vinkenburg, & Wilson-Evered, 2008) that accordingly meet the organizational goals (Pradhan, Panda, & Jena, 2017). However, the result of this study contradicts a recent research (Udin, 2022) which found that transformational leadership had no direct effect on innovative work behavior. Authors argued that the work of the employees is based on targets set by the leaders rather than actual individual initiatives to achieve organizational goals. On the other hand, it was previously affirmed that transformational leaders provoke and support the intellectual skills of the employees that significantly prompt higher innovative work behavior levels in the work environment (Isaksen & Akkermans, 2011).

5.1. Limitations and Strengths

When interpreting the findings of the current study, it is important to account for the following limitations. First, the sample size is relatively small (336 participants) which restricts the generalizability of the findings to the UAE population. This perhaps have also affected the appraisal of the results. Second, the cross-sectional nature of the study design prevents causal relationships to be inferred. Third, a self-report type questionnaire was used to measure the outcomes of interest which may be associated with self-reporting bias. However, this study also has strengths. To the best of our knowledge, this is the first study to examine the mediating effect of organizational culture of effectiveness on the relationship between transformational leadership and

innovative work behavior in the UAE. The hypotheses were evaluated using two advanced statistical tests to confirm the accuracy of the findings and model fit. Also, all the scales were checked for reliability prior to analysis.

5.2. Theoretical and managerial implications

Having advocates and allies who can offer insight, criticism, and sociopolitical support is essential because innovation processes are knowledge-intensive and heavily influenced by the social work environment (Messmann, Evers, & Kreijns, 2022). Transformational leaders can positively impact organizational innovation (Zuraik & Kelly, 2019) and articulate the organization's vision. The ability to make decisions, plan their own course of action, and freely experiment with various strategies while engaged in the innovation process are all made possible by employees having a sense of autonomy (Messmann, Evers, & Kreijns, 2022).

The ability of an organization to take risks, respond to changing business conditions, and continuously learn is referred to as adaptability in which strategic managers play a vital role (Koller, 2016). During times of high levels of uncertainty when change is the only constant, organizations had to re-think their strategies to gain, maintain and sustain their competitive advantage over time and ultimately not only survive in a volatile market but also succeed amid fierce competition. Organizations in today's world will lose their competitive edge fast if they are unable to adapt to environmental changes. (Esmi, Piran, & Hayat, The mediating effect of organizational culture on the relationship between transformational leadership and organizational citizenship behavior, 2017). Continuous improvement of goods and services, as well as internal procedures and conduct, is more

important than ever (Shanker, Bhanugopan, van der Heijden, & Farrell, 2017). It is encouraged that businesses put more effort into creating an environment where employees view diversity positively and constructively, increasing the likelihood that good things will come of it (Liu, Wang, & Chen, 2019). With employees being the key stakeholders that drive a business to its success (Gibbs, 2010), business owners, employers, top managers, leaders, and executives had to pay extra attention to their employees to ensure they have the right environment, tools, guidance, support, and autonomy to unleash their creativity and innovativeness (Hurley & Hult, 1998). They also encouraged them to make mistakes, learn from them, develop their capabilities, expand their knowledge, and excel at their jobs. This ultimately led to increased employee satisfaction, commitment, and loyalty to the organization (Elkordy, 2013) (Lasrado & Kassem, 2020). Administrators typically modify their leadership style to further the organization's mission, and this may have an impact on the job satisfaction of the workforce (Tsai Y. , 2011).

Given the above, it is hardship when the culture of the company culture is closed, rigid, and difficult to conform to, restricting creative minds, refusing new ideas, promoting nepotism for performance rating, and undermining values designed to support innovative processes (Li, Bhutto, Nasiri, Shaikh, & Samo, 2018). Organizations had to not only provide an innovative culture where employees can operate freely without judgement, they also had to invest in transformational leaders who played a vital role in not only communicating the organizational culture, its language, values and norms, but also to mentor, coach, and guide employees to trust their abilities, achieve better results, reach their objectives and excel at their performance on individual and team levels (Umrani, Waheed, & Masood, 2019). Leaders can identify specific behaviors that should be role

models for employees and taught through culture (Khan, Ismail, Hussain, & Alghazali, 2020). Managers that can coach staff and inspire them to deliver exceptional performance need to be chosen and hired by organizations (Elkordy, 2013).The development and promotion of a culture of safety as well as the achievement of maximum improvements are attributes of charismatic inspirational leaders (Lasrado & Kassem, 2020). Transformational leaders and the organization culture together were crucial to making sure employees are valued, trusted and are integral to an organization's success or failure (Elkordy, 2013).

What's also important to note is the vital role social exchange theory played in this research. To understand how people behave and act, social exchange depends on a supportive environment that is formed by connecting actors in several exchanges, in addition to a sequence of transactions with benefits and costs (Tsai & Kang, 2019). Social exchange depends on a supportive environment that is formed by connecting actors in several exchanges, in addition to a sequence of transactions with benefits and costs (Tsai & Kang, 2019). One of the most important theories to comprehend people's reactions is social exchange theory. It is also one of the most important conceptual paradigms in organizational behavior and typically, when academics speak about relationships, they are referring to an association between two interacting partners (whether individuals or institutions) (Cropanzano & Mitchell, 2005). This reciprocity principle, which social exchange theory highlights, encourages the emergence of exchange, and workers will continue their exchanges with others if they anticipate receiving something in return (Zhu, Tang, Zhang, & Wang, 2022).

According to social exchange theory, staff members are likely to respond positively to their individual-focused transformational leaders' encouragement and support by

engaging in extra-role behaviors that will help them meet challenging goals and advance their own personal capabilities (Yang, Luu, & Qian, 2021). Leaders who exhibit transformational leadership in a way that followers see as courteous, fair, and in line with moral and ethical standards may anticipate stronger follower organizational attachment as a suitable reaction to interactional justice (Thompson, Buch, Thompson, & Glasø, 2021). It is argued that a supportive environment can lessen uncertainty in an exchange relationship by raising the seeker's appreciation for the information received and acknowledging the efforts of others as well as by raising their expectations of the effort involved in seeking out the information to a more favorable level (Tsai & Kang, 2019).

Since organizations' goal is to succeed in a competitive market, they create a suitable working environment with the support of their change agents, the transformational leaders to ensure employee productivity is at its highest. By fostering an organizational culture that rewards creativity and innovation, transformational leaders tend to influence their followers' motivation and mindset to increase their propensity for innovation (Scott & Bruce, 1994). Similarly, employees nowadays seek organizations that not only support their creativity and trusts what they can achieve, but also gives them the autonomy to explore their limitations and gain the tools needed to achieve what they thought was unachievable (Pradhan, Panda, & Jena, 2017) (Liu, Wang, & Chen, 2019) (Messmann, Evers, & Kreijns, 2022).

Having said that, it is clear that in order to improve businesses' competitiveness on local and global scales, relevant authorities must address the essential issue of leadership development through developing leadership training programs that teach current and prospective business owners/managers how to create a competitive organizational

culture in their firms (Abdullah, Shamsuddin, & Wahad, 2015). Organizations should

support and enhance employee innovative behavior (Afsar & Umrani, 2020). They need

leaders in such circumstances who can help them become organizations with greater

capacity for expansion and survival (Esmi, Piran, & Hayat, The mediating effect of

organizational culture on the relationship between transformational leadership and

organizational citizenship behavior, 2017). Particular attention should be paid by

organizations to the transformational actions of supervisors that could be enhanced

through training (Liu, Wang, & Chen, 2019). Training programs that incorporate

interactive and situational activities related to the 4Is of transformational leaders can be

created. (Elkordy, 2013). Moreover, transformational leaders at various work levels

should also allocate some of their time to their team members' upbringing by mentoring,

teaching, coaching, and educating them (Alheet, Al Adwan, Areiqat, Zamil, & Saleh,

2020).

Chapter Six

Conclusion

This study demonstrates that organizational culture of effectiveness mediates the relationship between transformational leadership and innovative work behavior. Our findings further recommend future longitudinal research to evaluate and reinforce the sustainability of implementing a transformational leadership program in the workplace to influence the organizational culture and support the employees' innovative work behavior. Also, we recommend exploring the mediating effect of different types of organizational culture and compare the obtained findings in the present study in which the mediator is organizational culture of effectiveness. Moreover, since this study is limited to the United Arab Emirates, we recommend further studies across other Arab countries to determine the generalizability of the findings in the MENA region. Future research can also tackle other constraining factors that can affect the study. What could be interesting is comparing results of studies done on the same variables in non-western countries versus western countries as per our previously stated gap especially that previous studies illustrated that Middle Eastern respondents tend to perceive improvement in organizational cultural characteristics faster than Western respondents when organizational climate is enhanced (Nazari, Herremans, Isaac, Manassian, & Kline, 2011).

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Appendix

Questionnaire

Figure A1. Questionnaire on Transformational Leadership

Circle the appropriate number for your answer, using the following scale:
5 = strongly agree, 4= slightly agree, 3= neither agree nor disagree, 2 = slightly disagree,
1 = strongly disagree.

	Transformational Leadership					
	Idealized Attributes					
1	I instill pride in others for being associated with me.	1	2	3	4	5
2	I go beyond self-interest for the good of the group.	1	2	3	4	5
3	I act in ways that build others' respect for me.	1	2	3	4	5
4	I display a sense of power and confidence.	1	2	3	4	5
	Idealized Behaviors					
1	I talk about my important values & beliefs.	1	2	3	4	5
2	I specify the importance of having a strong sense of purpose.	1	2	3	4	5
3	I consider the moral & ethical consequences of decisions.	1	2	3	4	5
4	I emphasize the importance of having a collective sense of mission.	1	2	3	4	5
	Idealized Motivation					
1	I talk optimistically about the future.	1	2	3	4	5
2	I talk enthusiastically about what to be accomplished.	1	2	3	4	5
3	I articulate a compelling vision of the future.	1	2	3	4	5
4	I express confidence that goals will be achieved.	1	2	3	4	5
	Intellectual Simulation					
1	I re-examine critical assumptions to question whether they are appropriate.	1	2	3	4	5
2	I seek differing perspectives when solving problems.	1	2	3	4	5
3	I get others to look at problems from many different angles.	1	2	3	4	5
4	I suggest new ways of looking at how to complete assignments.	1	2	3	4	5
	Individual Consideration					
1	I spend time teaching and coaching.	1	2	3	4	5

		1	2	3	4	5
2	I treat others as individuals rather than just a member of a group.	1	2	3	4	5
3	I consider an individual as having different needs, abilities, and aspirations from others.	1	2	3	4	5
4	I help others to develop their strengths.	1	2	3	4	5

Figure A2. Questionnaire on Behavior Innovation & Strategic Innovation

Circle the appropriate number for your answer, using the following scale:
5 = strongly agree, 4= slightly agree, 3= neither agree nor disagree, 2 = slightly disagree, 1 = strongly disagree.

	Behavior Innovation & Strategic Innovation					
	Behavior Innovation					
1	Employees at my organization get a lot of support from managers if we want to try new ways of doing things.	1	2	3	4	5
2	My organization tolerates individuals who do things in a different way.	1	2	3	4	5
3	My organization is willing to try new ways of doing things and seek unusual, novel solutions.	1	2	3	4	5
4	My organization encourages people to think and behave in original and novel ways.	1	2	3	4	5
	Strategic Innovation					
1	My firm's R&D or product development resources are not adequate to handle the development need of new products & services.	1	2	3	4	5
2	Key executives at my firm are willing to take risks to seize and explore "chancy" growth opportunities.	1	2	3	4	5
3	Senior executives at my organization constantly seek unusual, novel solutions to problems via the use of "idea men".	1	2	3	4	5
4	When my organization sees new ways of doing things, we are last at adopting them.	1	2	3	4	5

Figure A3. Organizational Culture of Effectiveness

Circle the appropriate number for your answer, using the following scale:
5 = strongly agree, 4= slightly agree, 3= neither agree nor disagree, 2 = slightly disagree, 1 = strongly disagree.

	Organizational Culture of Effectiveness					
	Change Management					
1	People are flexible and adaptable when changes are necessary.	1	2	3	4	5

2	People feel that most change is the result of pressures imposed from higher up in the organization.	1	2	3	4	5
3	People have a clear idea of why and how to proceed throughout the process of change.	1	2	3	4	5
4	Most people believe that change happens too quickly and causes too much disruption.	1	2	3	4	5
5	People believe they can influence or affect their workplace through their ideas and involvement.	1	2	3	4	5
6	People believe that their concerns and anxieties during periods of change are heard and taken into considerations.	1	2	3	4	5
Goal Achievement						
1	Individuals and teams have clearly defined goals that relate to the goals or mission of the organization.	1	2	3	4	5
2	People and teams are often expected to reach goals which they believe are unattainable.	1	2	3	4	5
3	Individuals and teams are measured and rewarded according to how well goals are achieved.	1	2	3	4	5
4	Individuals and teams participate in defining specific goals.	1	2	3	4	5
5	We constantly stretch our goals, to continuously improve.	1	2	3	4	5
6	Individuals, teams, and functional areas often have incompatible goals.	1	2	3	4	5
Coordinated Teamwork						
1	Teams often lack the authority needed to get the job effectively.	1	2	3	4	5
2	People believe in teamwork, the "what's in it for us" approach rather than "what's in it for me."	1	2	3	4	5
3	People lack the interpersonal and technical skills they need to work effectively in teams.	1	2	3	4	5
4	People know what is expected of them and understand their impact on other people, teams, and functions.	1	2	3	4	5
5	People believe in working together collaboratively, preferring cooperation over completion.	1	2	3	4	5
6	Managers at all levels work together as a team to achieve results for the organization.	1	2	3	4	5
Shared Values and Beliefs						
1	People value and make use of one another's unique strengths and different abilities.	1	2	3	4	5
2	Everyone knows and understands our objectives	1	2	3	4	5

|						
	and priorities.					
3	People sometimes compromise company policy and procedures to reach operational goals.	1	2	3	4	5
4	Business decisions are most often made on the basis of facts, not just perceptions or assumptions.	1	2	3	4	5
5	People have access to timely and accurate information about what's really happening in the organization and why.	1	2	3	4	5
6	Everyone strongly believes in a set of shared values about how people should work together to solve common problems and reach mutual objectives.	1	2	3	4	5
	Customer Orientation					
1	We give the highest priority and support to meeting the needs of clients and customers and solving their problems.	1	2	3	4	5
2	Our policies and procedures help us to provide the service our customers and clients want and need.	1	2	3	4	5
3	People often see customer and client problems as someone else's responsibility.	1	2	3	4	5
4	People are always looking for new ways to better serve clients and customers.	1	2	3	4	5
5	Employees who do the best job of serving customers are more likely than other employees to be recognized or rewarded.	1	2	3	4	5
6	When customers have problems with the products or services they receive, those problems are almost always resolved to their satisfaction.	1	2	3	4	5

SPSS Results

<u>Descriptive Analysis:</u> Frequency Distribution for the demographic variables

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	27	8.0	8.0	8.0
	25-34	224	66.7	66.7	74.7
	35-44	68	20.2	20.2	94.9
	45-54	16	4.8	4.8	99.7
	55-64	1	.3	.3	100.0
	Total	336	100.0	100.0	

Age
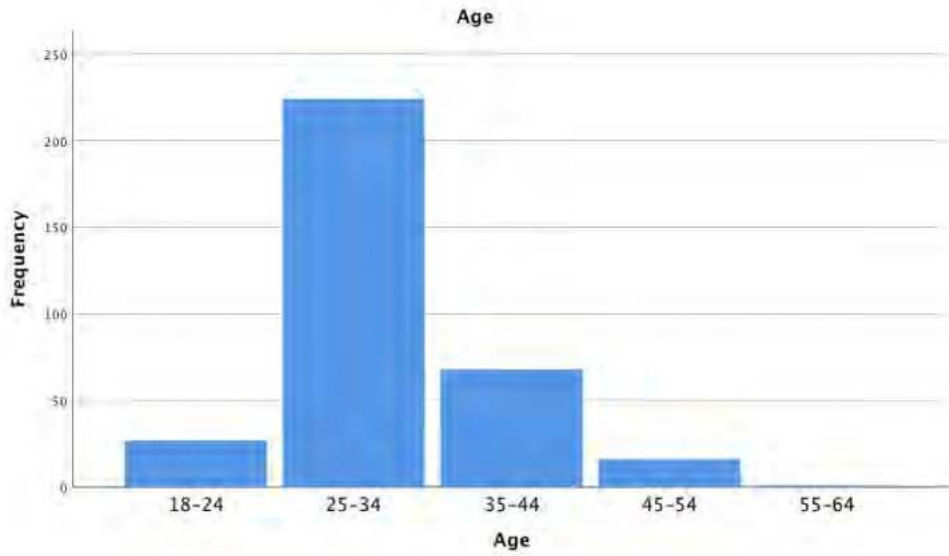
Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	179	53.3	53.3	53.3
	Male	157	46.7	46.7	100.0
	Total	336	100.0	100.0	

Gender
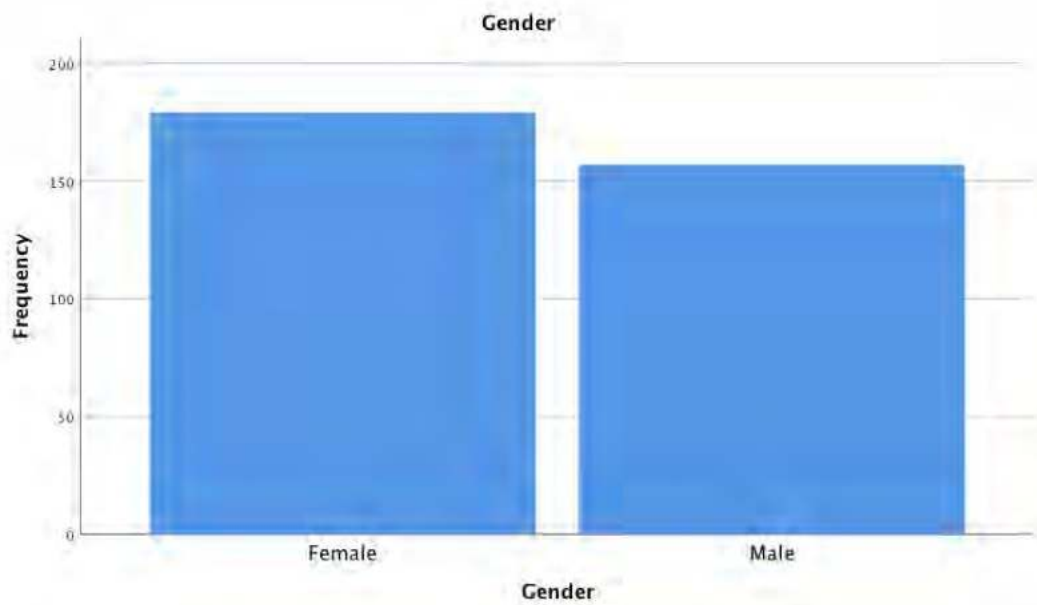
Educational level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduate	55	16.4	16.4	16.4
	Graduate	275	81.8	81.8	98.2

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Doctoral	6	1.8	1.8	100.0
Total	336	100.0	100.0	
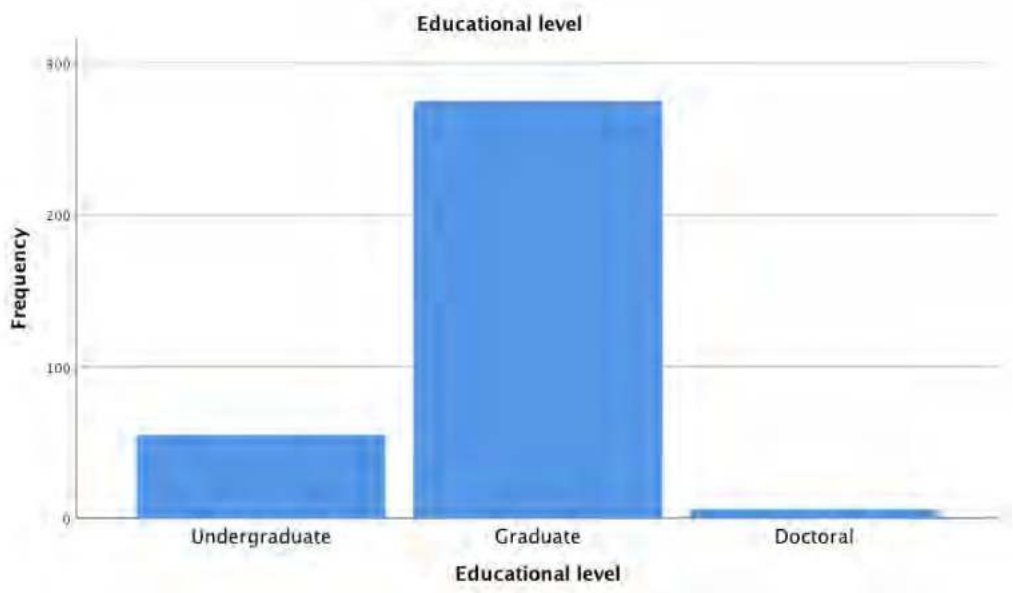
Educational level

Occupational level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Top management	47	14.0	14.0	14.0
	Middle management	188	56.0	56.0	69.9
	Supervisory	101	30.1	30.1	100.0
	Total	336	100.0	100.0	

Occupational level

Years of employment

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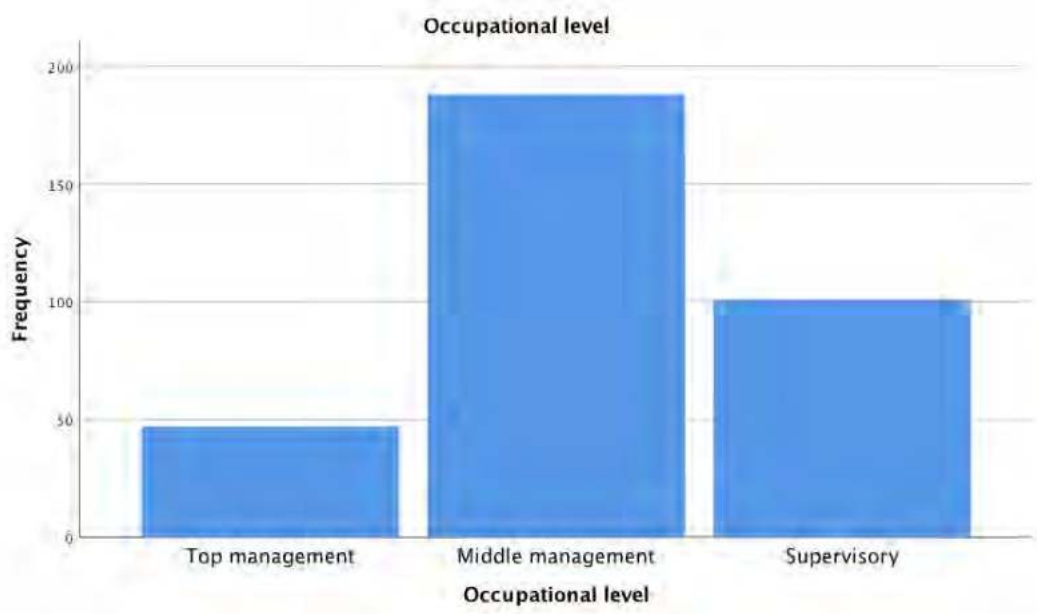
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-10	301	89.6	89.6	89.6
	10-20	18	5.4	5.4	94.9
	20-30	7	2.1	2.1	97.0
	30+	10	3.0	3.0	100.0
	Total	336	100.0	100.0	

Years of employment
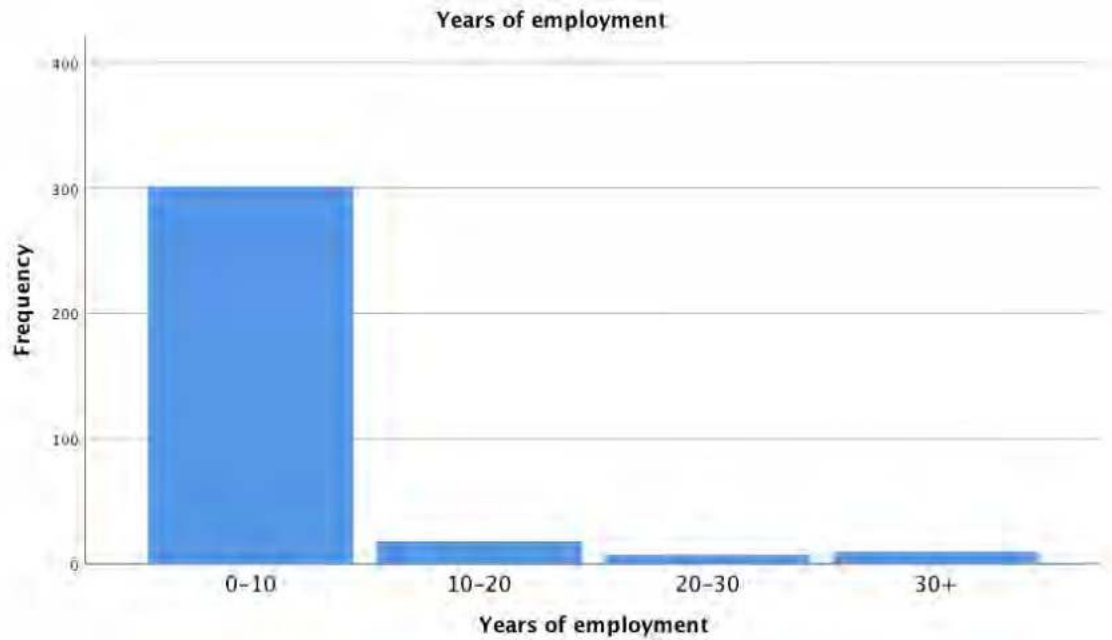
The results of the respondents' demographics are shown in Table 1 below.

Table 1: Demographics

Age	(1) 18-24 (8%); (2) 25-34 (66.7%); (3) 34-44 (20.2%); (4) 45-54 (4.8%); (5) 55-64(0.3%)
Gender	Male (46.7%); Female (53.3%)
Educational Level	(1) Undergraduate (16.4%); (2) Graduate (81.8%); (3) Doctoral (1.8%)
Occupational Level	(1) Supervisory (30.1%); (2) Middle Management (56%); (3) Top Management (14%)
Years of Employment	(1) 0-10 (89.6%); (2) 10-20 (5.4%); (3) 20-30 (2.1%); (4) 30+ (3%)

Our sample data contained 336 employees, almost half of which are males (46.7%). The majority are of age between 25 and 34 years (66.7%) and hold a Graduate degree (81.8%). More than half of them are middle managers (56%) and have been in their current job for 10 years or less (89.6%).

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Reliability Analysis on each Construct

The reliability results are displayed in Table 2 below. The data shows that the measures are reliable as all Cronbach Alpha values are well above the minimum threshold of 0.7.

Table 2: Composite Reliability

Construct	Reliability
TL	0.887
BISI	0.773
OC	0.889

Transformational leadership scale
Case Processing Summary

		N	%
Cases	Valid	334	99.4
	Excluded	2	.6
	Total	336	100.0

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.887	.891	20

Behavior Innovation & Strategic Innovation
Case Processing Summary

		N	%
Cases	Valid	336	100.0
	Excluded	0	.0
	Total	336	100.0

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.773	.791	8

Organizational culture of effectiveness
Case Processing Summary

		N	%
Cases	Valid	334	99.4

Excluded	2	.6	
Total	336	100.0	

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.889	.894	30

Exploratory Factorial Analysis using Kaiser-Meyer-Olkin test

Table 3: Exploratory Factor Analysis

Scale/ *Items*	KMO	X^2 (df)	Number of factors eigenvalue	Proportion	Cumulative
Transformational Leadership *20 items*	0.844*	2696.8 (190)	1 6.58	32.93%	32.93%
Behavior Innovation & Strategic Innovation *8 items*	0.843*	1464.42 (28)	1 4.10	51.29%	51.29%
Organizational Cultural of Effectiveness *30 items*	0.88*	5019.05(453)	1 9.29	30.99%	30.99%

*denotes p<0.001

The main objective for running Kaiser-Meyer-Olkin test is to validate the scales' factorial structures within our sample through assessing the scales' fit to our data. According to Kaiser-Meyer-Olkin test sample adequacy is achieved (KMO value >0.8) and all scales' factorial structures presented adequate results. Also, Barlett value is significant for all three scales.

Mediation using PROCESS

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.1 *****************

Written by Andrew F. Hayes, Ph.D.   www.afhayes.com

Documentation available in Hayes (2022). www.guilford.com/p/hayes3

```
*********************************************************************
***
Model: 4
    Y: IWB
    X: TL
    M: OC

Sample
Size: 332

*********************************************************************
***
OUTCOME VARIABLE:
```

OC

```
Model Summary
      R      R-sq     MSE       F       df1      df2        p
    .4363    .1903    .1876   77.5743   1.0000  330.0000    .0000

Model
           coeff     se        t        p      LLCI     ULCI
constant   1.6453   .2207    7.4547    .0000   1.2111   2.0794
```
TL   .4531   .0514   8.8076   .0000   .3519   .5543

```
Standardized coefficients
      coeff
TL     .4363

*********************************************************************
***
OUTCOME VARIABLE:
```

IWB

```
Model Summary
      R      R-sq     MSE       F       df1      df2        p
    .6262    .3921    .2967  106.0945   2.0000  329.0000    .0000

Model
           coeff     se        t        p      LLCI     ULCI
constant  -.2685    .3001    -.8947    .3716   -.8588    .3218
TL         .1990    .0719    2.7671    .0060    .0575    .3404
```
OC   .8074   .0692   11.6615   .0000   .6712   .9437

```
Standardized coefficients
      coeff
```

```
TL      .1322
OC      .5571


************************ TOTAL EFFECT MODEL
***************************
OUTCOME VARIABLE:
 IWB

Model Summary
      R       R-sq      MSE       F        df1       df2        p
   .3752     .1408     .4181   54.0779   1.0000  330.0000     .0000

Model
         coeff      se       t        p       LLCI      ULCI
constant  1.0600    .3295   3.2168    .0014    .4118    1.7082
TL         .5648    .0768   7.3538    .0000    .4137     .7159

Standardized coefficients
       coeff
TL     .3752


************* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y
**************
```

Total effect of X on Y
```
   Effect     se       t        p       LLCI      ULCI      c_cs
   .5648    .0768    7.3538    .0000    .4137     .7159     .3752
```

Direct effect of X on Y
```
   Effect     se       t        p       LLCI      ULCI     c'_cs
   .1990    .0719    2.7671    .0060    .0575     .3404     .1322
```

Indirect effect(s) of X on Y:
```
   Effect   BootSE  BootLLCI  BootULCI
OC   .3658    .0534    .2634     .4728
```

Completely standardized indirect effect(s) of X on Y:
```
   Effect   BootSE  BootLLCI  BootULCI
OC   .2430    .0312    .1807     .3040
```

```
********************* ANALYSIS NOTES AND ERRORS
**********************
```

Level of confidence for all confidence intervals in output:
 95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

------ END MATRIX -----

Measure Model Assessment using PLS-SEM

In the evaluation of the measurement model, the method suggested by (Hair, G., Ringle, & Sarstedt, 2017) was followed, and accordingly, values influencing the composite reliability were removed from the model.

Cronhbach's alpha and composite reliability (CR) value for all scales are above the recommended limit value of 0.80. These results indicate that the scales are acceptable in terms of internal consistency (Nunnually, 1978) (Hair, Black, Babin, & Anderson, 2010).

SRMR was found to be 0.07. This value is below the recommended limit value of 0.10 or 0.08. Therefore, the proposed model fits the data good (Hu & Bentler, 1998).

Table 4: Measurement model results using PLS-SEM

Scale	Cronbach's alpha	Rho_A	CR
Transformational leadership	0.88	0.89	0.89
Organizational cultural	0.92	0.93	0.93
Innovative work behavior	0.90	0.91	0.92

VIF (variance inflation factor) values for OC and TL were found to be 1.33 each which is less than the recommended threshold of 3.3. Thus, it may be understood that there is no multilinear connection problem as suggested by (Kock, 2015).

R square for IWB and OC were 0.49 and 0.25, respectively.
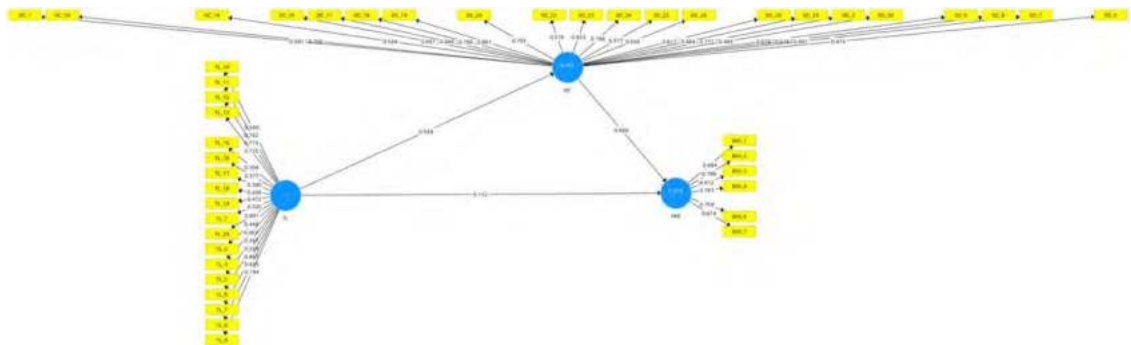
Hypothesis Testing

The bootstrapping method was utilized for hypothesis testing. The pertinent results are presented in the below table.

Table 5: Hypothesis Testing

Hypothesis	Path coefficients	Confidence Intervals-Bias Corrected	t-values
H1 TL→OC	0.502*	0.42-0.571	12.47
H2 OC→IWB	0.629*	0.551-0.695	16.71
H3 TL→IWB	0.127*	0.03-0.21	2.92
H4 TL →OC→IWB	0.316*	0.259-0.376	10.09

*indicates a p<0.001

All hypotheses were support. There's a positive relationship between TL and OC. OC and IWB. TL and IWB and TL and IWB through mediating effect of OC.

Since both direct and indirect effect of TL on IWB exist then this is called a complementary mediation.