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Knowledge management, workplace climate, creativity and performance

The role of authentic leadership

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Abstract

Purpose – This study aims at providing empirical evidence pertaining to the interaction among authentic leadership, workplace harmony, worker's creativity and performance in the context of telecommunication sector. These research streams remain important issues and of interest as the world continues to migrate toward a knowledge-based economy.

Design/methodology/approach – Applying structural equation modeling, this study diagnosed the impact of Authentic leadership (AL) on employees ($n = 345$) in two Jordanian telecommunication firms, specifically, how it shapes workplace climate, creativity and job performance. The study also tests the moderating role of knowledge sharing in the model, as well as the mediating role of workplace climate on the relationship between AL and positive organizational outcomes.

Findings – The empirical result suggests that AL positively influences workplace climate, creativity and job performance; workplace climate positively influences creativity and job performance; workplace climate mediates the relationship between AL and creativity, and job performance; and knowledge sharing behavior moderates the relationship between AL and workplace climate.

Originality/value – This study highlights the magnificent power of AL and knowledge sharing, not only in shaping the workplace atmosphere but also in delineating how these variables stimulate creativity and performance among employees. The implications for research and practice are discussed.

Keywords Performance, Creativity, Jordan, Knowledge management, Authentic leadership, Workplace climate

Paper type Research paper



1. Introduction

In today's dynamic work environment, creativity and innovation are valuable resources for gaining competitive advantage. More specifically, in the face of evolving technology, fierce domestic and global competition, uncertain and turbulent economic environment, organizations

need to outpace innovative competitors and promote creativity to survive and prosper. Beside this, leadership is deemed to be a contextual factor affecting employee creative performance and innovation; it has become a major concern for organizations to address a leadership approach based on their strategic plans (Mücelandili *et al.*, 2013). Employees can be “supported by leaders via making creativity a job requirement, giving feedback on creative goal progress, rewarding employees when they achieve creative outcomes” (De Stobbeleir *et al.*, 2011, p. 2). Authentic leaders foster a pleasant and harmonized work climate by manifesting their personal values; these values are believed to transform the whole organization’s values (Luthans *et al.*, 2006).

It is important to be aware that knowledge sharing behaviors are not formally prescribed by organizations, as it is usually omitted in most job descriptions (Tormo Carbó and Osca Segovia, 2011), implying that it is kind of a voluntary action by employees (Ipe, 2003). Leaders who indulge in transparent communication and also prioritize collective interests often get attention from followers because of this sincerity and openly sharing information (Avolio and Gardner, 2005), and, developing an atmosphere where employees share knowledge among each other, including the leader himself. In doing so, the leader can use and facilitate existing knowledge and acquired information to help move the organization way forward (Lakshman, 2005).

Fierce competition in telecommunication has forced telecommunication firms to explore creative ways to attract and retain their customers. In doing so, they have started encouraging their staff to come up with creative and novel ideas as evident in other service sectors (Wang *et al.*, 2014). Apparently, employee creativity is the root and origin of innovation, as well as organizational success (Amabile, 1997). A number of empirical findings support the notion that leadership is a predictor of creative performance (Oke *et al.*, 2009; Scott and Bruce, 1994). However, the dynamics of the relationship with modern relationship approach (e.g. AL) has not been thoroughly investigated. Some scholars note that the “mechanism in which leadership shapes the implementation of creative ideas has not been identified in enough detail” (Crossan and Apaydin, 2010). Given this, it can be considered an outcome worthy of research attention.

To fill the gaps in the existing literature, the researchers attempt to introduce a multi-level model through mediation–moderation association among research variables. These complex relations expand the current literature and contribute to theoretical and practical standing studies. First, this study contributes to an Arabian organizational foundation by applying this study in a non-Western country such as Jordan, and also provides useful information to the directors of the telecommunication sector. Second, according to Avolio and Walumbwa (2014), AL is a relatively new theory that still needs to be validated in various cultural settings such as Jordan which is an Arabian setting, as it differs significantly from the Western work culture. Research has shown that AL positively contributes to psychological capacities and the ethical and moral perspective of employee’s overtime (Avolio and Luthans, 2003). Investigation exploring the linkage between AL and workplace climate is scarce in the literature and more specifically in an Arabian setting, as a third objective and contribution of this study. Moreover, the number of studies investigating the moderating role of knowledge sharing is very few, almost negligible (Elrehail *et al.*, 2018; Mittal and Dhar, 2015). A little is known about AL theory in relation to employee knowledge sharing behaviors and workplace climate. Furthermore, there is a dearth of research concerning the interaction of the aforementioned variables, and filling this void is the fourth contribution and objective of this paper. The fifth contribution depends on the explanation as to how happy employees can be more productive by ensuring the antecedents of this, which are leadership, could provide a more peaceful and favorable workplace environment (Jiang and Probst, 2016). The final objective and contribution of this paper is that more

empirical research concerning the interaction between AL, creativity and performance is necessary to continue testing this premise (Rego *et al.*, 2012), something which has not been tested before in an Arabian context.

2. Underpinning theories and literature review

2.1 Authentic leadership and workplace climate

Prior academic research papers suggest that the behavior associated with AL raise the moral perspective of followers (Avolio *et al.*, 2004; Hannah *et al.*, 2005). Furthermore, the dimensions of AL (self-awareness, internalized moral perspective, balanced processing and relational transparency) promote ethical follower behavior (Hannah *et al.*, 2011; Walumbwa *et al.*, 2008). Given its higher-order nature and its incremental ability, AL can be differentiated from other leadership styles like transformational, ethical, charismatic, servant and spiritual. For instance, self-awareness denotes knowing oneself and being true to oneself as noted by May *et al.* (2003), and self-awareness also precludes continuous self-assessment. This technically means that a leader should not only understand how he/she affects others but also acknowledge his/her own strengths and weaknesses and limitations as oppose to transformational leadership which focuses on influencing and inspiring others.

Next is the balanced processing which denotes the characteristics and ability of a leader to collect, analyze and process relevant and useful information both on positive and negative fronts prior to any decisions, in other words, fair decision-making processes. The third dimension of AL is the relational transparency, which denotes the characteristics and ability of a leader to motivate, share ideas, challenges, thoughts and feelings with his subordinates. The last but not the least is, internalized moral perspective, which denotes the ability of a leader to exert self-regulation guided by consistent values and internal moral standards in decisions-making (Avolio *et al.*, 2004; Walumbwa *et al.*, 2008).

AL is operationalizing with an advanced level of moral development (Walumbwa *et al.*, 2004), because of its emphasis on ethical issues that are driven by moral standards and values, even against oppositions and societal pressures (Peus *et al.*, 2012). Such leaders promote employees' perceptions of psychological safety and creativity (Rego *et al.*, 2012), due to the transparent nature of AL. Psychological safety creates an atmosphere of peace without fear, which enhances creativity. AL constitutes an "antidote to offsetting the cold bureaucracies, restructuring and organizational pressures by instilling a positive climate" (Blake *et al.*, 2012), wherein everyone feels respected, trusted and appreciated for their contribution. Based on the extent of the theoretical and empirical arguments presented, the following hypothesis is proposed:

H1. Authentic leadership will influence workplace climate.

2.2 Authentic leadership, employee creativity and performance

The effect of leadership on employees' creativity and performance is an intriguing topic, and has attracted a number of scholarships in the Western world and is at its nascent stage in the Arabian world. Creativity simply refers to the "production of novel and useful ideas or solutions concerning products, services, processes, and procedures" (Amabile, 1997; Oldham and Cummings, 1996; Zhou and George, 2001). Job performance refers to "the level of productivity of an individual employee, relative to his or her peers, on several job-related behaviors and outcomes" (Babin and Boles, 1998, p. 82). Consequently, Shalley and Gilson (2004) and Zhang and Bartol (2010) asserted that creative performance is a predetermining factor for subordinates' effective performance.

AL focuses more on positive advancements (Jensen and Luthans, 2006). Avolio *et al.* (2004) suggested that AL's balanced processing and relational transparency promote employee trust, thus instilling emotional safety among employees. Based on its characteristics, AL should be suitable for stimulating workplace climate, knowledge sharing and creative performance. Creativity scholarship asserts that a leader's independent and self-confident attitudes perceived by subordinate may result in increased creative behaviors (Černe *et al.*, 2013; Patterson, 1999; Walumbwa *et al.*, 2011). Using a self-awareness mechanism, AL is able to identify and scrutinize an individual's own mental state through introspection; they also accept themselves as they are (Černe *et al.*, 2013). This process of self-awareness increases AL's self-confidence, which is then projected into the mindsets of the employee. Patterson (1999) argued that self-confidence is a prerequisite for creative behavior which eventually enhances job performance.

AL installs positive emotions by creating positive, supportive, fair and transparent atmospheric coordination resulting in higher performance and creativity (Rego *et al.*, 2014). This is because positive emotions enable flexible and creative thinking (Avolio *et al.*, 2004), which is contingent upon a trial and failure approach. This way, subordinates feel free to experiment their ideas even when there is room for failure. The extent of discussions clarifies the effectiveness of ethical and moral conduct on employee creativity (Bierly *et al.*, 2009; Valentine *et al.*, 2011). AL promotes psychological safety perceptions and intrinsic motivation through relational transparency, openness and communication (Rego *et al.*, 2012), a route through which employees can show their authenticity (Edmondson, 1999; Michie and Gooty, 2005) by demonstrating higher performance and creativity. Based on the extent of the theoretical and empirical arguments presented, the following hypotheses are proposed:

H2. Authentic leadership will influence employee creativity.

H3. Authentic leadership will influence employee performance.

2.3 Workplace climate, employee creativity and performance

The phenomenon of organizational or workplace climate was crafted out of psychological climate; it simply means shared psychological meanings. More subtly, it is an aggregation of individual perceptions of a work environment. James (1982) proposed a composition theory for organizational climate arguing that the "aggregation of individual climate perceptions (i.e. psychological climate) can serve as a powerful explanatory tool for higher levels of analysis". As organizational means shared psychological meanings (i.e. shared psychological climates), an aggregation of such a psychological climate state or a shared meaning can be established through a perceptual arrangement.

Scholars argued that in the Arabian culture, there "is a lack of trust at all levels of organizational hierarchy" (Budhwar and Mellahi, 2007). Furthermore, De Long and Fahey (2000, p. 120) noted that trust "greatly influences the amount of knowledge that flows between individuals and from individuals into the firm's databases, best practices archives, and other records". But with AL, trust may not be a problem in the Arabian setting or organizations, because of its transparency and ethical moral conducts. Subsequently, employees are willing to perform and even engage in some sort of citizenship behavior when they perceive the workplace climate as trustable (Golembiewski, 1979; Mayer *et al.*, 1995).

A substantial number of studies suggest that workplace climate has an impact on several employee outcomes such as job satisfaction, commitment, job performance and

stress (Carr *et al.*, 2003; Ostroff *et al.*, 2003; Parker *et al.*, 2003). A recent meta-analysis suggested that subordinates are more likely to be creative when they are motivated, i.e. by interest, pleasure, satisfaction and the challenge of the task itself, more than by external pressure and reward (Da Costa *et al.*, 2015). This study seeks to replicate the above-said work in a different cultural setting using multi-level analysis. In addition, this study enriched the model of interest with a leadership style that is characterized with high ethics and moral conducts. Based on the extent of the theoretical and empirical arguments presented, the following hypotheses are proposed:

H4. Favorable workplace climate will influence employee creativity.

H5. Favorable workplace climate will influence employee performance.

2.4 Mediating effect of workplace climate

Workplace practices, procedures and policies are narrated by leaders that are reflected in their actions and behaviors (Ostroff *et al.*, 2003). Leaders should create a work climate that supports subordinates and develops healthy relations with all leaders in the organization. This way, subordinates can accommodate work outcome preferences, expectations and demands (Hallin and Marnburg, 2008). Prior literature suggests that leadership style and organizational climate play an important role in shaping subordinate creative performance and behavior (Oldham and Cummings, 1996). In addition, recent empirical evidence conceptualizes workplace climate as psychological climate perceptions, whereas the majority of these studies found that an intimate relationship between workplace climate and leadership style empowered and supported employees' well-being and performance, especially when the organization offers an open and transparent communication approach in work-related activities (James *et al.*, 2008).

It could be observed from research outcomes that significant profits were achieved when subordinates have a positive workplace climate perception and also trusted their leaders (Mckay *et al.*, 2009). Henceforth, authentic leaders are particularly instrumental in shaping climate perceptions. A possible explanation for this is that subordinates perceive AL as trustworthy and respectful, as it makes their behaviors aligned with their belief and values (Avolio *et al.*, 2004; Boekhorst, 2015). As a matter of fact, inclusive behaviors that incorporate positive workplace climate can derive from an AL style (Boekhorst, 2015). Given the fact that AL encourages open communication, even among minority and opposition groups, it also seeks subordinate input to facilitate participative decision making (Pless and Maak, 2004; Taamneh *et al.*, 2018).

Theoretically, the association between AL, workplace climate and job outcomes can be inferred from (Bandura, 1986) social learning theory, which asserts that "values and belief systems of authentic leaders are embodied through their ethical verbal and nonverbal behaviors" (Boekhorst, 2015; Holland *et al.*, 2002). Therein, AL creates a work climate that is conducive for productivity. Research shows that AL uses consistent robust values and belief systems to interact with their followers, which have intense pervasive influence on subordinates' behavior (Holly Buttner *et al.*, 2010). Based on this line of reasoning, authentic leaders are critical in shaping a climate for inclusion through the mediating role of inclusive leader role modeling. This notion was supported by James *et al.* (2008) and Boekhorst (2015), who showed that AL can shape workplace inclusion and climate. It is important to remember that AL as leadership style focuses more on ethical, moral standards and transparency. As such, there may be a mediating role for workplace climate between AL and

important job outcomes like performance and creativity. Based on the extent of the theoretical and empirical arguments presented, the following hypotheses are proposed:

- H6.* Workplace climate will mediate the relationship between authentic leadership and employee creativity.
- H7.* Workplace climate will mediate the relationship between authentic leadership and employee performance.
-

2.5 Interaction effect of knowledge sharing

Knowledge sharing includes the exchange of employee knowledge, experiences and skills through the whole divisions or organization within a social interaction culture (Elrehail *et al.*, 2016). AL is a new explanatory theory of leadership in organizations, derived from the tenets of positive psychology (Seligman and Csikszentmihalyi, 2000), in which leader's trustworthiness and followers' development are intrinsic features. Authentic leaders are "transparent, reliable, trustworthy, ethical, and veritable" (Luthans and Avolio, 2003, p. 4) and they promote positive attitudes and behaviors of employees at individual level, which in turn will contribute to social group identification at the group level and performance at organizational level (Avolio *et al.*, 2004; Gardner *et al.*, 2005).

If recall, AL theory asserted that leaders' behavior can motivate positive job outcomes through certain intermediate processes such as the creation of a pleasant work climate that provides opportunities for incremental development and learning processes (Avolio *et al.*, 2004; Gardner *et al.*, 2005; Ilies *et al.*, 2005). In consonance with this statement, we consider that there is a process linking AL to employees' knowledge sharing behaviors as an amplifier on workplace climate, which eventually produces desirable job outcomes. A common question scholars ask is: Are the new millennium buzzwords of knowledge building, knowledge sharing and knowledge creation components of knowledge management just another fad? To answer such a question, one must understand the role of knowledge in organizational performance (Abubakar *et al.*, 2017).

Empirical evidence denotes that for a successful knowledge management system to surface, it must link moral purpose and knowledge sharing (Fullan, 2002; Hargreaves, 2003). Riege (2005) argued that knowledge sharing is voluntary and in general, mankind resists doing so. Research has shown that the basic obstacle for not sharing is the absence of trust in team or leaders (Edú-Valsania *et al.*, 2016; Elrehail *et al.*, 2018). As per counter evidence, a group of scholars complemented the argument, stating that workers share their knowledge only when the conception of organizational leadership is positive and characterized with high values and moral standards (Cabrera and Cabrera, 2005; Jahani *et al.*, 2011; Ma *et al.*, 2013). Technically, when leadership and knowledge sharing are combined, the outcome might shape the organizational culture, e.g. a favorable work climate.

AL provides employees with a chance to expand their knowledge through learning and acquisition, and also develop collective intuition self-efficacy (Rego *et al.*, 2014). When employees acquire sufficient self-knowledge (Alzghoul, 2013; Avolio and Gardner, 2005), the level of self-efficacy and confidence increases, which in turn encourages employees to engage in knowledge sharing behaviors (Elrehail *et al.*, 2013; Hsu *et al.*, 2007). Indeed, their tacit knowledge becomes conscious and allows them to openly share it with their colleagues, along with their explicit knowledge. Despite all the potential association and linkage between the aforementioned variables and the mechanism behind their model of operation, knowledge sharing is a second-order construct.

There is a gap in the literature of AL theory relating to knowledge sharing and workplace climate. The pioneers of AL conceptualized these possible relationships theoretically (Walumbwa *et al.*, 2011). To date, only three scholars attempted to test these modulations; two of the research were unpublished dissertations (Liu, 2012; Ozlati, 2012) and one was an empirical study that was published a few months ago (Edu-Valsania *et al.*, 2016). It is noteworthy that these studies were instated in the USA and Spain. Hence, such findings should be considered tentative until they can be replicated in other settings. In the context of this research, employee job performance and creativity, based on the extent of the theoretical and empirical arguments presented, the following hypothesis is proposed:

- H8. Knowledge management (knowledge sharing) will moderate the relationship between authentic leadership and workplace climate.

3. Method

In this study, the researchers used a quantitative data collection completed through the questionnaire and for analyses. *Given the nature of the model developed for this study, a structural equation modeling (SEM) technique was adopted, and AMOS version 22 was used for analyses. As a first step, a confirmatory factor analysis (CFA) will be carried out.* The full population size in the target companies was 1,900; the researchers sent 1,000 invitations via email, inviting them to take part in the survey by human resources department (HRD) in each company by explaining the random sampling techniques to HRD. The total number of respondents was 370; 25 were rejected because of missing data, therefore the number of questionnaires used in the analysis was 345, which is above the average rate for using Online surveys (Hamilton, 2009; Nulty, 2008). The non-response analysis is conducted in the next section. The possibility of nonresponse bias was examined following Armstrong and Overton's (1977) and Collier and Bienstock's (2007) suggestions. We compared the construct mean value and the mean value of the first 25 per cent of survey responses against the last 25 per cent. We concluded that nonresponse bias does not appear to be a significant problem, as no significant differences were found.

3.1 Research instruments

Authentic leadership perception is the exogenous construct of the model. It is a second-order construct, as it comprises four first-order constructs (i.e. balanced processing, internalized moral perspective, relational transparency and self-awareness). The construct was measured via 14 items adopted from Neider and Schriesheim (2011). *Sample item includes* "My leader asks for ideas that challenge his/her core beliefs".

Workplace climate was measured with 11 items adopted from Nazari *et al.* (2006) and Nazari *et al.* (2011). *Sample of items includes* "Expressing original ideas is encouraged in our organization" and "Taking reasonable risks is acceptable in this organization". *Response choices range from 1 = disagree strongly to 5 = agree strongly.*

Knowledge sharing behaviors were measured with eight items adopted from prior studies (Chen *et al.*, 2011; Chow and Chan, 2008; Hau *et al.*, 2013; Shao *et al.*, 2012; Teigland and Wasko, 2003). Knowledge sharing has two dimensions: the tacit knowledge consisting of four scale items and the explicit knowledge sharing behavior with four items. Respondents were asked to rate the extent to which he/she is willing to share his/her tacit and explicit knowledge in their organization. *Sample of items includes* "I am glad to share my work reports on the IT systems with other employees in my workplace" and "I do not like to provide my expertise on the IT systems with other employees in my workplace" *for tacit*

and explicit knowledge sharing, respectively. Response choices range from 1 = disagree strongly to 5 = agree strongly.

Employee creativity was measured via 13 items adopted from (Zhou and George, 2001). It was measured at the individual level using a self-reported approach, even if some oppose such approach and suggest creativity to be supervisor-assessed (Tierney, 1999). Yet a large research stream uses self-reported measures when it comes to creativity (Kaufman, 2006; Shalley *et al.*, 2009). *Sample item includes* "My organization suggests new ways to achieve goals or objectives".

Employee job performance was observed with five items borrowed from Babin and Boles's (1998) work. There are speculations that self-report measures such as job performance have the propensity to inflate research outcomes. Researchers such as Churchill *et al.* (1985) and Karatepe and Uludag (2008) noted that variables such as employee job performance can be tested using self-report and that "using a self-report measure does not inevitably result in systematic bias". *Sample item includes* "I am a top performer".

4. Data analysis

4.1 Reliability and internal consistency

This study involved a number of dimension-level CFA to investigate whether the studied variables capture distinct constructs versus common source effects. All factor loadings were equal to and/or exceeded 0.50 with *t*-values greater than 1.960, providing evidence of convergent validity and discriminant validity among AL, workplace climate and knowledge sharing sub-constructs. Overall, the construct showed sound measurement properties.

Next, the internal consistency of the measurement model using reliability analyses was observed; in other words, Cronbach's alpha coefficient (Table I). The reliability coefficients for the variables ranged from 0.91 to 0.94, which is considered acceptable (Jones and Appelbaum, 1989). The convergent and discriminant validity of the measures was verified through composite reliability (CR) and average variance extracted (AVE) (Elrehail, 2018). The value of CR ranges from 0.89 to 0.94 above the benchmark of 0.70 as recommended by Hair *et al.* (2011). Similarly, the AVEs have been either equal or above the recommended values (Hair *et al.*, 2011). These values overall provided evidence of the convergent and discriminant validity of the measurement model.

After testing the second-order constructs validity, an SEM approach was used to test the model as a whole. Statistical analyses software SPSS and AMOS 22.0 were used along with the maximum likelihood estimation method for all parameter estimation. Abiding by the rules set forth by Anderson and Gerbing (1988), the researcher validated the measurement model through CFA prior observation of the hypothesized relationship. First, item loading, modification indices and model fit statistics were diagnosed to refine the measures, to capture the observed phenomenon at hand.

Table I.
Cronbach's alpha
coefficient, composite
reliability and
average variance
extracted
study variables

Variables	Alpha	CR	AVE
1. Authentic leadership	0.91	0.92	0.50
2. Knowledge sharing	0.92	0.90	0.58
3. Workplace climate	0.94	0.94	0.57
4. Employee creativity	0.92	0.92	0.50
5. Job performance	0.92	0.89	0.65

Notes: CR, composite reliability; AVE, average variance extracted; α , Cronbach's alpha

4.2 Model test for fitness

At model level, seven fit indices were selected to examine the goodness of fit of the multi-level model. The researcher compared the model fits, and the fit indices that produced a desirable result was the proposed model, the single factor model was worse. This suggests that the potential threat of common method bias does not seem to be a problem. The χ^2 statistic: non-significant p -values are desirable; normed fit index: values closer to 1.00 are satisfactory; CFI (comparative fit index): values closer to 1.00 are satisfactory; TLI (Tucker–Lewis coefficient): values closer to 1.00 are satisfactory; IFI (incremental fit index): values closer to 1.00 are satisfactory; RMR (root mean square error): values less than 0.06 are acceptable (Anderson and Gerbing, 1988; Joseph F Hair *et al.*, 2010); RMSEA (root mean square error of approximation): values less than 0.060 are acceptable (Browne and Cudeck, 1993; Fornell and Larcker, 1981).

In addition, we assessed these indices three times. The researcher used three independent models: the first one is a one-factor model; in this model, all the research variables were loaded into a single factor. The second model consists of four items whereby employee creativity and performance were loaded as a single construct. Finally, the third model was the proposed study model as explained below:

A one-factor model failed to fit the data satisfactorily (e.g. NFI = 0.40, CFI = 0.42, TLI = 0.39, IFI = 0.42, RMR = 0.028, RMSEA = 0.160). Next, a four-factor model, where employees' performance and creativity merge into a single factor, and other variables remain independent, does not fit the data satisfactorily (e.g. NFI = 0.70, CFI = 0.75, TLI = 0.73, IFI = 0.75, RMR = 0.021, RMSEA = 0.080). The proposed model produced a better fit. Results indicate that the measurement model (five factor) provides a good fit to the data ($\chi^2 = 3284.9$ [df = 1014, $p < 0.001$], NFI = 0.81, CFI = 0.86, TLI = 0.85, IFI = 0.86, RMR = 0.021, RMSEA = 0.057). The current indices are similar to those found and used by Abubakar and Arasli (2016), Browne and Cudeck (1993), Fornell and Larcker (1981) and Hair *et al.* (2010).

4.3 Multi-level test

Intra-class correlation (ICC) analysis with the aid of two-way mixed and absolute agreement definitions was used to assess the level of agreement between employees. The aim was to check whether employees in different branches can be differentiated on the variables under investigation. Single and average measures were reported for the variables AL (ICC = 0.46 and 0.91), workplace climate (ICC = 0.61 and 0.92) and knowledge sharing behavior (ICC = 0.58 and 0.94). Overall the F -value for ANOVA tests was all significant ($p < 0.001$). The current outcome delineates that the response was not associated with a particular branch or company, but rather the perception of the employees. Given this, the study continued to generate aggregate measures of perceived AL at the individual level. This procedure has been used in various studies, including the founding fathers of AL (Walumbwa *et al.*, 2011, 2008).

4.4 Direct, mediating and interaction effects

To test $H1-H5$, SEM was applied, and the outcomes are presented in Tables II and III. The tables show the main, direct and indirect effects of the variables on one another; the direct and interaction effects will be presented in the subsequent table.

$H6$ predicted that workplace climate will mediate the relationship between AL and employee creativity. The findings show that the indirect effect of AL on employee creativity through workplace climate was significant 0.205 ($p = 0.001$, 95 per cent confidence interval: 0.138 – 0.293). This outcome conforms to expectation; as such, $H6$ received empirical support. The result also revealed that a partial mediation exists between the study variables.

Next, this study also hypothesizes that workplace climate will mediate the relationship between AL and employee job performance. The outcome shows that the indirect effect of AL on employee job performance through workplace climate was *significant 0.294* ($p = 0.001$, 95 per cent confidence interval: 0.211-0.407). This outcome conforms to expectation; as such, *H7* received empirical support. The result also revealed that a partial mediation exists between the study variables.

After testing the direct and indirect relationships, the last hypothesis was tested. It states that the relationship between AL and workplace climate will be moderated by knowledge sharing. Given this, a moderated-mediated regression analysis following the procedures recommended by *Aiken et al. (1991)* was conducted. First, AL and knowledge sharing were standardized to reduce multicollinearity with the interaction term. Next, the standardized AL was multiplied by the standardized knowledge sharing to produce the interaction term.

Finally, the “main” effect (knowledge sharing) was also included in the model to prevent a biased estimate of the interaction. The result shows a significant interaction between AL and knowledge sharing on workplace climate. This means that the effect of AL in creating a favorable workplace climate is stronger when knowledge sharing behavior is high. In sum, our findings reveal that an increase in the knowledge sharing of individuals strengthens the effect of AL on workplace climate and other subsequent outcomes. In addition, this moderating effect was not only applicable for workplace climate but also for employee creativity and job performance.

5. Discussion

AL received an attention from the researchers’ and practitioner in the past decades; this is because empirical and practical evidence shows that managers who possess such leadership skills help workers find connection and meaning in their workplace, leading to core and important development in organizations (*Cartwright and Holmes, 2006*). Based on this

Table II. Maximum likelihood estimates for the research model

Exogenous variables	Endogenous variables	Coefficient estimates	Standard error	<i>t</i>	<i>p</i> statistics
Authentic leadership	Workplace climate	0.600	0.041	14.645	***
Authentic leadership	Employee creativity	0.225	0.047	4.776	***
Authentic leadership	Job performance	0.196	0.066	2.968	0.003
Knowledge sharing	Workplace climate	0.207	0.036	5.722	***
Workplace climate	Employee creativity	0.343	0.047	7.265	***
Workplace climate	Job performance	0.490	0.066	7.382	***

Notes: *Significant at the $p < 0.05$ level (two-tailed); **significant at the $p < 0.01$ level (two-tailed)

Table III. Breakdown of total effect of the research model with interaction effect

Exogenous variables	Endogenous variables	Total effect	Direct effect	Indirect effect
Authentic leadership	Workplace climate	0.654	0.654	0.000
Authentic leadership	Employee creativity	0.449	0.225	0.224
Authentic leadership	Job performance	0.517	0.196	0.321
Workplace climate	Employee creativity	0.343	0.343	0.000
Workplace climate	Job performance	0.490	0.490	0.000
<i>Interaction effect in the model</i> (Authentic leadership* knowledge sharing)		<i>Beta</i> -0.071	<i>Standard error</i> 0.013	<i>t-value</i> -5.312

evidence, the present work tests the effect of AL on creativity and performance of staff working in the Jordanian telecommunication sector, and at the same, examines the mediating role of workplace climate and the moderating role of knowledge sharing behavior. In doing so, the study seeks to determine the effectiveness of AL in manifesting and stimulating creativity and performance among employees.

Furthermore, [García-Guiu et al. \(2015\)](#) added that leadership is positively related to employees' workgroup identification. One reason authentic leaders are able to create a positive workplace climate is that of their direct collaboration, ability to translate mission and vision with meaning that enables followers to develop a sense of purpose in what they do ([George and William, 2003](#)). Such leaders achieve this by pursuing better ways of doing things and actively requesting members' participation and sharing information ([Avolio and Gardner, 2005](#); [Avolio et al., 2004](#)). This way, the interaction between knowledge sharing and such leadership may lead to a better workplace climate. The positive climate could be strengthened when followers start adopting the organization's values and internalizing them as their own ([Dickson et al., 2001](#)). A keen sense of group identity will lead to greater workplace climate and the presence of knowledge sharing with AL will pave way for a greater level of performance ([Edú-Valsania et al., 2016](#)), consistent with this reasoning. The current findings offer a different perspective in the sense that it is the first time that the link between AL and creativity, job performance and the moderating role of knowledge sharing through work climate has been tested.

H1 demonstrates that AL plays a significant role in creating and shaping a favorable workplace climate. The outcome is in line with prior findings which asserts that AL is known to promote positive interpersonal relationships between superior and subordinates, and between subordinates ([Gardner et al., 2011](#)). The current findings, however, offer a different perspective in the sense that it is the first time that the link between AL and work climate has been tested in the telecommunication sector and in Jordan.

H2 demonstrates that AL plays a significant role in motivating employees to think and act creatively. Earlier research has shown the positive impact of transformational leadership on follower creativity. This outcome conforms to prior scholarly work ([Černe et al., 2013](#); [Gong et al., 2009](#)) which found out that leadership can affect employee creativity in a positive direction. More recently, [Rego et al. \(2012\)](#) also showed how authentic leaders motivate their subordinates through a positive psychological state, which in turn sets and improves autonomy, and autonomy works hand in hand with creativity.

The findings of this research suggest that a significant relationship exists between AL and job performance, supporting hypothesis number three. Although there is a substantial support concerning the effect of leadership on performance with the inclusion of AL itself, there is little empirical research linking AL and performance in the Arab setting. In line with [Avolio et al.'s \(2004\)](#) and [Gardner et al.'s \(2011\)](#) findings, the outcome in this research suggested a positive association between AL and performance. Early researchers such as [George and William \(2003\)](#) demonstrated that authentic leaders are able to promote their followers' job performance. This field work contributes in that its stance is from an Arabian setting as prior scholarly work was mostly in the Western settings.

H4 demonstrates that a favorable workplace climate plays an important role in shaping the creative performance of employees in the telecommunication industry. The outcome implies that workplace climate influences creativity. A favorable workplace climate fosters greater enthusiasm among employees to present creative ideas, solve problems and take advantage of opportunities for the benefit of the organization. Individuals must be psychologically comfortable to be creative ([West and Altink, 1996](#)). Similarly, [Schyns et al. \(2009\)](#) found that workplace climate improves job satisfaction in both situational and

personal factors. This paper argued workplace climate strength route that uses an aggregate-level variance approach. In line with this, the work found that workplace climate affects creativity which is achieved through dispersion indices (Roberson *et al.*, 2007).

H5 shows that a favorable workplace climate plays an important role in shaping the job performance of employees in the telecommunication industry. Most management studies have focused on how team processes affect performance, and the resultant outcome depicts that positive relationships exist (Døjbak Haakonsson *et al.*, 2008; Garcia-Morales *et al.*, 2008). Nevertheless, there is some proof that the group context, including workplace climate, may influence and differ conceptually. There has been relatively little investigation concerning the relationships between performance and workplace climate. As such, this study aims to fill and contribute to the current knowledge. The outcome shows that workplace climate does affect the job performance of the employee.

H6 suggests that workplace climate will mediate the relationship between AL and creativity. The outcome suggested that a partial mediation exists, which is consistent with Stephens *et al.*'s finding (2012):

[...] assertions that authentic managers can shape and create a pleasant work atmosphere, which in turn promotes positive effect in the minds of employees, employees who possess greater level positive effects often share high social bonds, which eventually open the possibilities for creativity and/or the discovery of new things.

Prior scholars have also shown that an unpleasant work atmosphere can have deleterious outcomes on followers, as such a climate may hinder their ability to perform their roles successfully (Gershon *et al.*, 2007; Gregory *et al.*, 2007; Stone *et al.*, 2007).

H7 suggests that workplace climate will mediate the relationship between AL and job performance. The outcome suggested that a partial mediation exists, consistent with prior work. Leadership was shown to have effects on team climate, and this effect is contingent upon a leader-centric view (Dinh *et al.*, 2014; Uhl-Bien *et al.*, 2014). In their longitudinal study, Kinnunen *et al.* (2016) found that AL correlates with team climate which supports the current finding. In addition, (Semedo *et al.*, 2016) research results reveal that AL influences employees' attitudes ranging from creativity, satisfaction and individual performance. Other scholars also found that a positive work climate mediates between AL and psychological capital (Woolley *et al.*, 2011). The extent relationship provided clear logic on why and how we had a partial mediation. It is important to caution readers that due to the nature of regression, we cannot be certain of the direction of influence, as it can reverse. A limitation that the author must admit is that data were collected at a single point and as such, a reverse relationship cannot be tested.

Consistent with *H8*, the relationships in the model varied in both strength and significance when the moderator knowledge sharing behavior was added into the equation. That is, knowledge sharing behavior moderated the relationship between AL and workplace climate. Such that, the greater the knowledge sharing behavior, the higher the impact of AL on workplace climate and other employee outcomes. The current outcome conforms to prior leadership studies, which assert that the behavior of superiors is a significant determinant of organizational climate (Dickson *et al.*, 2001; Elrehail *et al.*, 2018). In addition, Gardner *et al.* (2005) asserted that AL skills can create a positive organizational climate.

5.1 Implications for theory and practice

First, this study contributes to multi-dimension constructs: AL, knowledge sharing and workplace climate theories. AL has a wide and rich theoretical base which has an exceptional effect on employee's performance in the Arab world, yet very few studies have

been conducted on its suitability among firms in Jordan and in the telecommunication industry. Second, the outcome clarified the conceptual and theoretical foundations of AL; managers who are open to a non-defensive authentic way of communication with subordinates which can induce commitment, resilience, collaboration and optimism among workers, specifically in a Jordanian context.

Constructs such as AL and organizational climate have not been well explored by researchers. Hence, this study reveals that both constructs are worthy to have additional attention from both researchers and practitioners. Scholars such as Avolio and Mhatre (2012) and Gardner *et al.* (2011) argued that more empirical research is needed to understand how AL influences employees at the individual level, and how employees respond to such management. Meanwhile, there is a need to also expand the nomological network for AL as noted by Avolio and Mhatre (2012). Henceforth, this study responds to this call showing the chain of effects between AL, workplace climate, creativity and employees' performance. This work helps to explain why AL predicts employees' attitudes like effective commitment and positive workplace climate that explain why and how followers' express gratitude for recognition through creativity performance and individual job performance.

Third, the findings provide a major theoretical extension concerning moderator that fit in between AL and workplace climate linkage, and the study also addresses the latest request for more investigation of the link and benefits between leadership and knowledge management for employees and firms. More specifically, this new insight provides additional insight into the existing theories of leadership and knowledge management by illustrating that when committed employees share knowledge, leaders find it easier to shape work environment which eventually motivates employees to perform and engage in creative activities.

For practical implication, leadership provides managers with an opportunity to concurrently self-reflect and effect a dynamic work environment. Analogously, this type of leadership includes continuing processes by which leaders and followers get self-awareness and establish open, transparent, trusting and genuine relationships, which partly might be shaped and affected by planned interventions. As such, the outcome from our data suggests that leaders need to epitomize those qualities that they seek others to emulate (Avolio and Gardner, 2005).

This research adds to the comparatively few researchers linking AL practices in a multi-level model. Managers showing authentic characteristics and behaviors are helpful when dealing with their subordinates' behaviors in highly challenging and stressful environments. The findings also add to our knowledge of how knowledge sharing behavior may interact with AL via contagion influences in shaping workplace climate. Overall, these results confirm that knowledge sharing and workplace climate can help defuse undesirable attitudinal and behavioral outcomes.

5.2 Research limitations and method caveats

There are two major strengths of this study. First, our study provides a comprehensive picture of the relationship between AL, knowledge sharing, workplace climate and creativity and job performance. Second, the data captured in this study were from respondents in different job categories, in two distinct firms across Jordan. This implies that the data are not specific to a single occupation or organization or ethnic group, rather, one that applies to the working population in general.

Although the findings of this paper are informative, the study inherits several limitations that should be considered in interpreting these outcomes. First and foremost, is the potential confounding of knowledge sharing perception among employees. It is not possible for us to

rule out the possibility that the effects observed are all functions of personal education, work experience and other life events like a generation. Future research should seek to use longitudinal designs to help clarify possible effects of generation. Furthermore, the researchers could test the contingent role of trust, which is still argued in the Arabian context (Alsaad *et al.*, 2017).

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