

The Influence of Transformational Leadership on Innovation of Universities: The Mediating Role of Trust in Leader

Doaa S. Awaja

Research Scholar, Limkokwing
University of Creative Technology,
Cyberjaya, Malaysia

Ahmed R. Awaja,

Research Scholar, Limkokwing
University of Creative Technology,
Cyberjaya, Malaysia

Valliappan Raju

Senior Lecturer, Limkokwing University
of Creative Technology, Cyberjaya,
Malaysia

Abstract:- Leadership and Innovation have been both central to discussions within the academic literature. However, the number of empirical studies investigating the interaction between these two dimensions has been limited. This paper examined the mediating role of Trust in Leader, focusing on the influence of transformational Leadership (TL) on the Innovation of Palestinian universities. The study conducted a quantitative questionnaire data from (249) respondents representing the academic teaching staff of the universities in Palestine. Within this study the partial least squares-Structural equation model PLS-SEM for analyzing data and identifying the implications. Generally, the findings indicated that TL and trust in leader are significantly related to the innovation of universities in Palestine. A further result regarding the mediating role indicated that trust in leader mediates the influence of TL on innovation. Discussion on the findings and recommendations of this study were also provided.

Keywords:- Transformational Leadership, Organizational Trust, Trust in Leader, Innovation, Universities, Palestine.

I. INTRODUCTION

In the competitive environment of today, where organizations expand globally, they face many challenges to achieve their objectives [1], [2]. The development of competencies of human resources is considered a main activity that organizations focus on which takes great efforts to overcome their competitors on regard to product quality, services, and development of new products [3]. In order to survive and successfully compete in this dynamic environment, organizations need effective resources, such as human resources that stay committed to performing at high standards [4]. Human resources are considered as the valued assets, they are inimitable and help to generate a sustainable competitive advantage by encouraging innovative ideas [5], [6]. In order to keep these human resources motivated for innovative work, people who are able to manage them efficiently are required [7], [8]. Accordingly, leaders have a great role in this mission [9], [10]. Leaders play a vital role in encouraging employees to learn, achieve their full potential and overcome learning boundaries [11]. Organizations also need to build an environment of trust, where employees can share their knowledge, experiences and innovative ideas. Trust is considered as a key element of effective communication and teamwork between leaders and followers, and among employees. It helps in reducing risk and increasing employees'

commitment and productivity [12]. Palestinian Universities are considered young; however they have an influence on all parts of the Palestinian life, wellbeing and cause. Today, Palestinian universities as other higher education institutions in the same region and worldwide struggle to fulfil the demands of students on education, and at the same time, try to maintain high quality of service and relevant education in order to survive by offering innovative products and services to compete in the market. Thus, this study aims at evaluating the relation between TL and innovation in universities in Palestine, in addition to examining the mediation effect of trust in leader on the relationship between TL and innovation in universities in Palestine; as such relations have not been investigated to date and especially in education sector in the Palestinian context.

II. LITERATURE REVIEW

A. Transformational Leadership

Each style of leadership has its own advantages and shortcomings, however, the Full Range Leadership Theory by [13] indicates that the influence of transformational leadership (TL) is more significant than transactional leadership influence in promoting innovation, as TL is more important to organizations since it works towards firm innovation, contributing to organizational learning, and improving employees' creativity skills [3], [14]. A transformational leader is the type of leader who satisfies the needs and moral values of his followers', and encourages passion and commitment in his followers towards the vision and mission of their organization. In addition, this leader instills pride and faith deep inside his followers, encourages them to communicate their personal respect, as well as stimulating them intellectually, a transformational leader also urges his followers to think in a creative way and promote challenging aims [15], [16], and encourages them to achieve extraordinary expectations [17]. A central mechanism in practicing TL effectively is by developing the followers' trust in leader [18]. Literature introduces four dimensions that reflect the style of TL [19]–[22] as follows:

- *Idealized influence*

Happens when the transformational leader instills in his followers pride, vision, sense of mission and faith and simultaneously enables the followers to gain respect and trust.

- *Inspirational motivation*

Exists when the leader inspires followers to accomplish challenging goals, so he becomes engaged in collective goals,

bringing about team spirit by instilling enthusiasm and feelings of optimism between employees.

- *Individualized consideration*

It exists by the leader's recognition of the individual distinctiveness, and relating the needs of those individuals with the needs of their organization, when a leader be a coach and a mentor who provides many growth opportunities.

- *Intellectual stimulation*

It happens when the leader helps followers to employ techniques of problem solving and perform their roles and responsibilities following novel and innovative ways.

B. Organizational Trust

[23] Define organizational trust (OT) as "having trust in one's organization and their leaders by creating an intra-organizational value chain both horizontally and vertically for realizing organizational goals". The field of OT includes the concepts generated from the relationships between colleagues, between employees and their leaders, and between employees and the organization within social exchange or within cooperative relationships.

Literature has widely recognized the importance of trust in the leadership. In this study, trust in leaders is considered as an effective power for the organization's management [24]. Trust also promotes good leadership [25]. Literature related to trust and innovation sometimes overlaps in different points. When trust is viewed from the point of view of the organization and organizational behavior, the relation between trust and innovation is reflected in organizational culture, in leadership, in the climate, learning, in change and creativity [25]. Trust also has effects on organizations in different ways, as influences information and knowledge sharing which in turn enhances innovativeness, promotes commitment, and identity [25], [26].

- *Trust in Leader*

Trust is considered one of the most studied constructs in organizational literature recently [27]. The familiar definition of trust by [28] says that trust reflects the beliefs and expectations of someone on the way a trustee behaves. In this study, the researcher will focus on trust in the leader, thus, a specific definition will be presented to the concept. Rousseau, [29] refer to trust in leadership as the positive expectations of the followers towards their direct leader according to the mutual relations between them where the leader gains the trust of his followers if he has competence, merit, morals and openness to the followers, and if he respects their interests and needs. It is indicated in literature that Trust is a very important concept in the theories of TL, as transformational leaders emphasize the building of trust with the followers [30].

Trust constitutes a base for relationships in any organization, where employees build trustworthiness towards their leaders through the skillful performance of their daily tasks [24]. It has been observed that followers who show high level of trust in the leader perform effectively and they obtain high levels of commitment to their work place. Furthermore, they will have the desire to share their ideas, knowledge, and

experiences with others [31]. Instilling trust is seen as a vital activity in leadership management. Though, the aim of building trust and maintaining a trustworthy environment is considered complex and challenging [24], [32]. Literature shows that the traits of a leader, the style, and the skills influences trust building and showing trustworthiness [25].

- *Innovation*

The rapid changes in the economic environment in the field of science and technology, the phenomenon of globalization and its challenges, the changing demands of customers, the work in unstable markets, and the increasing competition on products all have forced the organizations to improve their performance for competition [33]. This has made innovation in the product and process as one of the basic concepts of today. One of the most important prerequisites of contemporary administration is that it is no longer enough for organizations to do their work in traditional ways. This leads to failure in many cases, so organizations that strive to succeed need to make innovation and change as distinctive features for them. Many definitions have been introduced for the concept of innovation by researchers; for instance, [34] presented a definition that reflect innovation as the organization's introduction of new or developed products and methods for marketing. Another definition by [35] indicates that innovation is the process of applying new knowledge by an organization in order to improve and produce new products or services. Accordingly, there are various definitions for the concept, but they all agree on that innovation means to reach something new, whether in idea or in products or services.

Literature have discussed different types of innovation, [36] distinguished between five different types of innovation, reflected in new production methods, new organizing methods, new markets, new products and resources. While [37]–[40] indicated that there are two types of innovation known as technological innovation and administrative innovation. Many other studies introduced the concept through product and process innovation as done by [41], [42]. These two types of innovation have been recognized as the most essential for organizations which aim to succeed and achieve a competitive position and they have gain greater attention by researchers than other types of innovation [43]–[45]. Innovation of product reflects developing new products by an organization for achieving its goals [46], while innovation of process refers to increasing the effectiveness of processes to develop the production of new goods and the delivery of services to satisfy the customers [47]. It can be concluded that innovation helps organization to achieve their goals, produce new products or services that satisfy the customer, and consequently enable them to survive in the competitive environment [48].

The definition of innovation in the context of education does not differ too much from the definitions introduced in literature. It was defined as the development of new products such as curricula and teaching materials as well as implementing new processes to deliver education services through the use of new technology and improved skills [49]. This concept has gain a clear attention from researchers in the field if higher education, who indicated that innovation is very

essential for universities [50]. As it enables them to improve their learning outcomes and enhance the quality of education provided by universities [51]. This concentrates on the importance of innovation for educational institution in their development and success.

C. Transformational Leadership, Trust in Leader, Innovation

Transformational leaders have to instill high levels of trust in their followers by showing support, reassurance, concern and respect for the followers [18], [52], [53]. When followers trust their leaders, they will exert extra efforts in order to finish their tasks on time and they will become more willing to engage in activities that benefit the organization even if it is not a specified role for them perform these activities [27], [54]. Behaviors of transformational leaders help them to make emotional bonds with followers, and create high levels of mutual trust. Thus, followers will be able to perceive the actions of their leaders to improve their experience at work, resulting in positive attitudes for their jobs [18].

The transformational leader with idealized influence stands as a role model and prompt high levels of trust in his followers [53]. On the other hand, the one who shows intellectual stimulation engenders high trust in their followers. By encouraging and boosting creativity, followers are allowed to take part in the decision making process, which may have an influence on them. This makes the followers feel that their leaders respect them [55]. By showing inspirational motivation through creating a common vision among individuals, and by ensuring good realization of this vision, this would rise the trust of followers [56]. When a followers has a strong understanding of the vision of his leader and understands that their individual actions contributes to the achievements of followers, they will have a desire to be part of the process of social exchange [57]. Another vital trait by transformational leaders is that they promotes creativity while encouraging employees to think out of the box and to be innovative [58]. On the other hand, individualized consideration behavior of the leader instills high degrees of trust in the followers. As trust results when the follower realizes that his leader really cares about him, and takes his interests in consideration. Thus, transformational leaders that shows attention to the needs, interests and security of the followers can strengthen the emotional bond between them and his followers, thus, inducing high levels of trust [52], [53].

When followers recognize that their leader place good efforts to solve problems, trust will increase and their attitude towards work will be affected positively in turn [59]. It is indicated that when a person has trust in his/her leader, he/she will likely feel more empowered by his leader and consequently will find it easy to be innovative [60]. As trust makes employees have a desire to depend on leaders, disclose visions and opinions, and freely share information and mistakes done at work with their leaders so as to solve then innovatively [60].

The direct relationships between the concepts of TL and different outcomes in an organization has been addressed in literature, such as organizational commitment, innovation and

job performance [61]–[63]. In this study, the mediation role of trust in leader on the relation between TL and innovation will investigated.

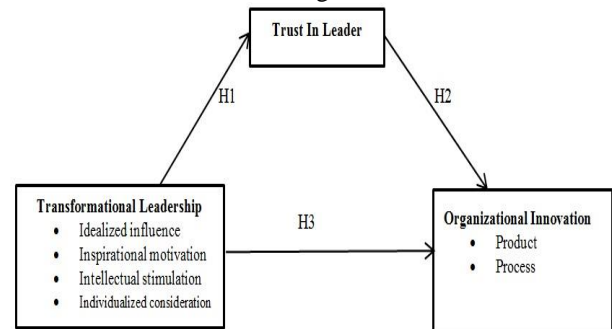


Fig 1:- Conceptual Framework

III. RESEARCH HYPOTHESES AND CONCEPTUAL MODEL

This study aims to investigate the relations between TL and innovation with Trust in Leader as a mediator by teaching staff of Palestinian Universities. The following hypotheses are presented based on the study purpose:

- H1: Transformational Leadership has a significant positive effect on Trust in Leader in Palestinian universities.
- H2: Trust In Leader has a significant positive effect on Innovation in Palestinian universities.
- H3: Transformational Leadership has a significant positive effect on Innovation in Palestinian universities.
- H4: Trust in Leader has a significant mediating effect on the relationship between Transformational Leadership and Innovation in Palestinian universities.

Based on the hypotheses of the study, the conceptual framework is presented in Figure 1.

IV. RESEARCH METHODOLOGY

A. Data Collection

The data needed for this research were collected using a questionnaire survey. Based on previous literature and empirical reviews, the questionnaire was developed in order to study the relationships. The self-administered questionnaire included 39 items targeted the faculty members of universities to evaluate their leaders. The questionnaire included statements to measure TL, Trust in Leader, and innovation using a Likert scale of five points. The questionnaire was developed in English Language then Back translation was made to translate this questionnaire survey from English to Arabic. Then, three academics specialized in the field of Management at Al-Aqsa University reviewed the questionnaire in both languages and some changings were done depending on their recommendations and comments to ensure the clarity of the questionnaire’s wording in order to finalize the questionnaire for data collection process and achieving the study objectives.

B. Measures

The questionnaire included 20 items measuring the behaviors of TL adapted from Multifactor Leadership

Questionnaire (MLQ) [64]. An example of questions was: “My Leader considers me as having different needs, abilities and aspirations to others”. For measuring Trust in Leader items adapted from [65] were used and they included six items. An example question was: ‘I believe my leader cares about the welfare of the staff’. For measuring Innovation, items were adapted from previous studies [37], [66]–[68] and modified so as to be suitable for the Palestinian context. Five items measure product innovation and a further eight items measure process innovation. An Example question was: “My University is delivering new courses for members of staff”.

C. Sample Size

The research was conducted in the cities of Gaza Strip which is located in the south of Palestine. The reason behind selecting education sector for conducting the research is that HEIs are considered the main productive instrument of societies, and universities specifically, as being HEIs, have always assisted the needs of their society and should remain doing so. Additionally, the role of the leaders or managers is obvious in this sector and in the structure of universities. Two public universities were selected for the study which are. Al Azhar University and Islamic University in Gaza Strip. A suitable sample was selected according to [69] as to get the data needed from the respondents. The respondents of the survey questionnaire are the teaching staff of the universities in Gaza strip- Palestine. A total of 270 questionnaires were distributed on respondents in the selected universities out of which 254 questionnaires were returned and 249 questionnaires were completely filled out by respondents.

D. Questionnaire Validity and Reliability

To ensure the validity of the questionnaire and to make sure that there are no biases regarding the multiple interpretations or the inappropriate and not clear wording, all items of the survey instrument have been extracted from previous literature related to the study variables, the survey instrument was translated from English to Arabic then it was back translated then evaluated and revised by three specialized academics in the field of Management. Their recommendations and comments were taken into consideration in order to enhance the questionnaire and present it in a way that fits the study.

Reliability was established by values of Cronbach’s Alpha coefficient. All variables showed values more than (0.7), so they are considered accepted values.

V. RESULTS AND ANALYSIS

A. Analysis on Respondent’s Profile

The final dataset after data screening process consists of 249 respondents. The gender ratio shows that the respondents are 81.7% males, age ratio shows 69.1% are aged between 31 and 50 years, 47% have an experience up to 10 years, 82.5% have a qualification of master degree and PhD degree, 80.2% of them are faculty members, and the respondents are from two working Universities in Gaza-Strip of Palestine.

B. Validity and Reliability of Constructs

As the research use PLS analysis, it is necessary to perform some validity and reliability tests for the measurement model which includes composite reliability, outer loading, convergent validity, and discriminant validity [70], [71]. Cross loading is tested based on the rule of thumb of 0.708 or higher values, two items were deleted and all the remaining 28 items have proper level of loading without cross loading. Reliability assessment of internal consistency values is reported in Table 1, where all the composite reliability and Cronbach’s alpha are above the threshold of 0.7. In addition, as seen in Table 1, the average Variance Extracted (AVE) values are above 0.5 with the rage of 0.63 to 0.75, therefore convergent validity is achieved. VIF values are between 1.00 and 1.18, which shows that there is no collinearity between variables of different levels as all the VIF value are between 0.2 and 5.0, which satisfies the threshold value (Table 2). Finally, Table 3 shows the matrix of Fornell-Larcker criterion, which indicates that no discriminate validity issues are. This study satisfies the rule of thumb proposed by [70].

	AVE	Composite Reliability	Cronbach’s Alpha
IN_PS	0.758914	0.926378	0.893839
IN_PT	0.637048	0.897615	0.857245
OT	0.794359	0.92053	0.870376
TL_IC	0.639255	0.876093	0.811183
TL_II	0.737056	0.918091	0.881463
TL_IM	0.679732	0.894516	0.842785
TL_IS	0.666461	0.888707	0.832842

Table 1. Internal Consistency and Convergent Validity

	OT		IN	
	Tolerance	VIF	Tolerance	VIF
(Constant)				
TL	1.000	1.000	.847	1.180
OT			.847	1.180

Table 2. Collinearity Assessment of the research Variables

	IN_PS	IN_PT	OT	TL_IC	TL_II	TL_IM	TL_IS
IN_PS	0.871						
IN_PT	0.637838	0.798					
OT	0.450524	0.465691	0.891				
TL_IC	0.265711	0.496075	0.203515	0.800			
TL_II	0.451054	0.452008	0.386024	0.302988	0.859		
TL_IM	0.397444	0.513918	0.263148	0.240172	0.312996	0.824	
TL_IS	0.38863	0.707755	0.24411	0.47842	0.388189	0.383094	0.816

Table 3. Discriminant validity – Fornell-Larcker criterion

C. Structural Model

To measure the overall power of the mode, predictive power R2 and predictive relevance are used [70]. Figure 2 demonstrate the structural model based on the PLS algorithm analysis which shows the predictive power and the path coefficient values of the paths within the proposed model. It can be seen that the proposed determinants can explain 57.5% of the variance in the innovation. The results are supported with Predictive relevance Q2 of 0.567 (Table 5). The model is moderate in predictive power and has a large predictive relevance.

Table 6 shows the path coefficient values of the direct relations associated with the proposed hypothesis based on the PLS bootstrapping analysis. The rule of thumb as [70] is T statistic must have a value of 1.96 or higher which is equivalent to the significant value of 5% or less. The three proposed relations H1, H2, and H3 are accepted. H1 propose the positive relationships between transformational leadership and trust in leader (Beta = 0.391; T-statistics = 5.99). H2 propose the positive relationships between trust in leader and Innovation (Beta = 0.266; T-statistics = 5.79). H3 propose the positive relationships between transformational leadership and Innovation (Beta = 0.613; T-statistics = 17.56).

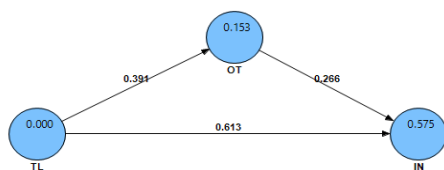


Fig 2:- PLS Algorithm Path Model

	Predictive Power		Predictive Relevance	
	R Square	Status	Q Square	Status
IN	0.575	Moderate	0.567	Large

Table 4. Predictive Power and Predictive Relevance

	Path Coefficient	T Statistics	Sig Value (1 tailed)	Status
OT -> IN	0.26618	5.78806	0.00001	Accepted
TL -> IN	0.613271	17.559292	0.00001	Accepted
TL -> OT	0.390952	9.596284	0.00001	Accepted

Table 5. Structural Relationships of the Proposed Model

As the three direct relations hypothesis are accepted based on level of significance at 1%. The precedence of the approved determinants of the Innovation variance are transformational leadership, followed by trust in leader.

The fourth hypothesis is for the mediation of trust in leader between transformational leadership and innovation. In statistics, the mediation model is the model which explains the process involving the relationship taking place between two variables through the role of a third variable called a mediator. Thus, the mediator variable helps in explaining the relationship between the independent variable and dependent variables [72] In mediation analysis, it is essential to evaluate the direct , indirect and total effect between variables. All the effects are calculated based of the actual path coefficient values from the model. The significant and status of the mediations are based on Sobel mediation procedure. As shown in Table 7, the values of the direct, indirect, and total effect are all presented. The values show that there is a significant mediation effect at level 1%, where the mediation is partial because the direct effect is still significant.

	Direct Effect	Indirect Effect	Total Effect	Significance of Mediation	T Statistics of Mediation
TL -> OT -> IN	0.613271	0.10406307	0.71733307	0.00000036	4.95691104
Status	Approved (Partial)				

Table 6. Structural Relationships of the Proposed Model

VI. CONCLUSION

Findings on the relationship between TL and trust in leader indicate that this relation is established and positive. The same results were supported by the previous studies [73]–[75]. Trust in leader encourages employees to accomplish tasks far better than the way they perform without having a feeling of trust in their leader. Trust also helps to create strong relationships between employees and the leaders [52]. It also means that the less employees trust their leaders and top managers of organization, the more feeling of fear and redundancy in expressing their ideas or presenting recommendations to achieve the organization’s goals and bring up innovation. TL also allows employees to perform in a friendly environment, where they accomplish the tasks clearly and achieve all the defined targets. It also urges employees to

work and perform effectively and help them accept the challenges and overcome them. It is also indicated that innovative policies are welcomed by everyone, thus, the overall performance will be increased. The mediating role of trust is also approved which provides new directions for managers, leaders and organizations to instill a trustworthy environment so as employees will have trust in their leaders which in turn will increase their acceptance of innovative schemes and ideas so they will show far better performance.

REFERENCES

- [1] M. Umer Paracha, A. Qamar, A. Mirza, and I.-U.-H. Waqas, "Impact of Leadership Style (Transformational & Transactional Leadership) On Employee Performance & Mediating Role of Job Satisfaction' Study of Private School (Educator) In Pakistan," *Glob. J. Manag. Bus. Res.*, vol. 12, no. January, 2012.
- [2] F. Alsaedi and T. Male, "Transformational Leadership and Globalization: Attitudes of School Principals in Kuwait," *Educ. Manag. Adm. Leadersh.*, vol. 41, no. 5, pp. 640–657, 2013.
- [3] M. Birasnav, S. Rangnekar, and A. Dalpati, "Transformational leadership and human capital benefits: the role of knowledge management," *Leadersh. Organ. Dev. J.*, vol. 32, no. 2, pp. 106–126, 2011.
- [4] N. Saha and A. Gregar, "Human resource management: As a source of sustained competitive advantage of the firms," *Int. Proc. Econ. Dev. Res.*, vol. 46, no. 1, pp. 1–5, 2012.
- [5] D. I. Jung, C. Chow, and A. Wu, "The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings," *Leadersh. Q.*, vol. 14, no. 4–5, pp. 525–544, 2003.
- [6] J. Jyoti and S. Bhau, "Transformational Leadership and Job Performance: A study of Higher Education," *J. Serv. Res. Vol.*, vol. 15, no. 2, 2016.
- [7] S. C. Certo and S. T. Certo, *Modern management*. Pearson/Prentice Hall, 2006.
- [8] Y.-J. Liaw, N.-W. Chi, and A. Chuang, "Examining the mechanisms linking transformational leadership, employee customer orientation, and service performance: The mediating roles of perceived supervisor and coworker support," *J. Bus. Psychol.*, vol. 25, no. 3, pp. 477–492, 2010.
- [9] H.-W. Chou, Y.-H. Lin, H.-H. Chang, and W.-W. Chuang, "Transformational Leadership and Team Performance," *SAGE Open*, vol. 3, no. 3, p. 215824401349702, 2013.
- [10] J. Jyoti and S. Bhau, "Transformational Leadership and Job Performance: A study of Higher Education," vol. 15, no. 2, 2016.
- [11] P. K. Chathoth and M. D. Olsen, "Organisational Leadership and Strategy in the Hospitality Industry," *J. Serv. Res.*, vol. 2, no. 1, pp. 5–29, 2002.
- [12] K. Krot and D. Lewicka, "THE IMPORTANCE OF TRUST IN MANAGER-EMPLOYEE RELATIONSHIPS," *Public Adm. Rev.*, vol. 10, no. 3, pp. 224–233, 2012.
- [13] B. J. Avolio and B. M. Bass, "Manual for the multifactor leadership questionnaire (Form 5X)," Redw. City, CA Mindgarden, 2002.
- [14] J. P. J. De Jong and D. N. Den Hartog, "How leaders influence employees' innovative behaviour," *Eur. J. Innov. Manag.*, vol. 10, no. 1, pp. 41–64, 2007.
- [15] A. Humphrey, "Transformational leadership and organizational citizenship behaviors: The role of organizational identification," *Psychol. J.*, vol. 15, no. 4, pp. 247–268, 2012.
- [16] M. M. Alharbi, "Leadership styles , organisational culture and managerial effectiveness: the moderating effect of Islamic Work Ethics in Saudi Arabia Public Sector," no. June, p. 219, 2015.
- [17] J. J. Hater and B. M. Bass, "Superiors' evaluations and subordinates' perceptions of transformational and transactional leadership.," *J. Appl. Psychol.*, vol. 73, no. 4, p. 695, 1988.
- [18] W. Zhu, A. Newman, Q. Miao, and A. Hooke, "Revisiting the mediating role of trust in transformational leadership effects: Do different types of trust make a difference?," *Leadersh. Q.*, vol. 24, no. 1, pp. 94–105, 2013.
- [19] B. M. Bass and B. J. Avolio, *Full range leadership development: Manual for the Multifactor Leadership Questionnaire*. Mind Garden Palo Alto, CA, 1997.
- [20] B. M. Bass, "Comment: Transformational Leadership Looking at Other Possible Antecedents and Consequences," *J. Manag. Inq.*, vol. 4, no. 3, pp. 293–297, 1995.
- [21] B. M. Bass, "From transactional to transformational leadership: Learning to share the vision," *Organ. Dyn.*, vol. 18, no. 3, pp. 19–31, 1990.
- [22] A. E. Rafferty and M. A. Griffin, "Dimensions of transformational leadership: Conceptual and empirical extensions," *Leadersh. Q.*, vol. 15, no. 3, pp. 329–354, 2004.
- [23] R. C. Nyhan and H. A. Marlowe Jr, "Development and psychometric properties of the organizational trust inventory," *Eval. Rev.*, vol. 21, no. 5, pp. 614–635, 1997.
- [24] T. Savolainen, "Leadership by trust in renewing human intellectual capital," *Aineet. pääoma organisation voimavarana*. UNIPress. Print. EU, 2011.
- [25] T. Savolainen and P. López-Fresno, "Trust in Leadership for Sustaining Innovations: How Leaders Enact on Showing Trustworthiness," *Nan Yan Bus.*, pp. 2–8, 2012.
- [26] T. Savolainen, "Organizational Trust and Leadership as Driving Forces for Innovativeness," in *Proceedings of the 13th International Conference on ISO9000 & TQM*. Ho, S.(Ed.) Kuala Lumpur, MY, 2008, pp. 71–72.
- [27] C. S. Burke, D. E. Sims, E. H. Lazzara, and E. Salas, "Trust in leadership: A multi-level review and integration," *Leadersh. Q.*, vol. 18, no. 6, pp. 606–632, 2007.
- [28] J. B. Rotter, "A new scale for the measurement of interpersonal trust 1," *J. Pers.*, vol. 35, no. 4, pp. 651–665, 1967.

- [29] D. M. Rousseau, S. B. Sitkin, R. S. Burt, and C. Camerer, "Not so different after all: A cross-discipline view of trust," *Acad. Manag. Rev.*, vol. 23, no. 3, pp. 393–404, 1998.
- [30] K. Verbraak, "Transformational Leadership and Employee Creativity: The role of trust in the leader," 2014.
- [31] T. Savolainen and K. Malkamäki, "Leadership By Trust for Organizational Innovativeness: Renewal of Human Intellectual Capital in Focus," *Proc. TIIM2011 Conf.*, vol. 28, p. 30, 2011.
- [32] T. Savolainen, "Role of trust in managing customer focus: Multilevel theoretical discussion and empirical findings," in *Proceedings of the 5th EIASM Workshop on Trust within and between organizations*, Madrid, 2010, vol. 28, no. 29.1, p. 2010.
- [33] Y. Salehi, "INVESTIGATE THE RELATIONSHIP BETWEEN ORGANIZATIONAL LEARNING CAPABILITIES AND ORGANIZATIONAL INNOVATION IN THE FOOD INDUSTRY (SUBSIDIARY INDUSTRIAL ESTATES OF KERMANSHAH PROVINCE)," vol. 8, no. 1, pp. 84–97, 2017.
- [34] C. Camisón and A. Villar-López, "Non-technical innovation: organizational memory and learning capabilities as antecedent factors with effects on sustained competitive advantage," *Ind. Mark. Manag.*, vol. 40, no. 8, pp. 1294–1304, 2011.
- [35] K. Okatan, "Managing knowledge for innovation and intra networking: a case study," *Procedia-Social Behav. Sci.*, vol. 62, pp. 59–63, 2012.
- [36] J. A. Schumpeter, "Change and the Entrepreneur," *Essays JA Schumpeter*, 1934.
- [37] R. L. Daft, "A dual-core model of organizational innovation," *Acad. Manag. J.*, vol. 21, no. 2, pp. 193–210, 1978.
- [38] A. Subramanian and S. Nilakanta, "Organizational innovativeness: Exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance," *Omega*, vol. 24, no. 6, pp. 631–647, 1996.
- [39] J. Birkinshaw, G. Hamel, and M. J. Mol, "Management innovation," *Acad. Manag. Rev.*, vol. 33, no. 4, pp. 825–845, 2008.
- [40] K. Jaskyte, "Predictors of administrative and technological innovations in nonprofit organizations," *Public Adm. Rev.*, vol. 71, no. 1, pp. 77–86, 2011.
- [41] F. Damanpour, R. M. Walker, and C. N. Avellaneda, "Combinative effects of innovation types and organizational performance: A longitudinal study of service organizations," *J. Manag. Stud.*, vol. 46, no. 4, pp. 650–675, 2009.
- [42] G. Smith, *Democratic innovations: Designing institutions for citizen participation*. Cambridge University Press, 2009.
- [43] P. Ahmed and C. Shepherd, *Innovation management*. Pearson Education Limited, 2010.
- [44] S. AL-Husseini, "THE IMPACT OF LEADERSHIP STYLE ON INNOVATION IN IRAQ'S HIGHER EDUCATION INSTITUTIONS," *Stud. High. Educ. J.*, 2014.
- [45] S. Liao, C. Wu, D. Hu, and K. Tsui, "Relationships between knowledge acquisition, absorptive capacity and innovation capability: an empirical study on Taiwans financial and manufacturing industries," *J. Inf. Sci.*, vol. 36, no. 1, pp. 19–35, 2010.
- [46] J. P. Stefanovitz, M. S. Nagano, F. C. A. Santos, and others, "Influence of the technological innovation degree on knowledge creation: Evidence from a Brazilian firm," *African J. Bus. Manag.*, vol. 4, no. 5, pp. 631–643, 2010.
- [47] M. A. Schilling, *Strategic management of technological innovation*. Tata McGraw-Hill Education, 2010.
- [48] M. J. Khan, N. Aslam, and M. N. Riaz, "Leadership Styles as Predictors of Innovative Work Behavior," *Pakistan J. Soc. Clin. Psychol.*, vol. 9, no. 2, pp. 17–22, 2012.
- [49] S. J. H. Al-husseini, "The Impact of Leadership Style on Innovation in Iraq's Higher Education Institutions: The Role of Knowledge Sharing Sawasn," *University of Plymouth United Kingdom*, 2014.
- [50] K. Jaskyte, "Transformational leadership, organizational culture, and innovativeness in nonprofit organizations," *Nonprofit Manag. Leadersh.*, vol. 15, no. 2, pp. 153–168, 2004.
- [51] D. Albury, "Fostering innovation in public services," *Public money Manag.*, vol. 25, no. 1, pp. 51–56, 2005.
- [52] K. T. Dirks and D. L. Ferrin, "Trust in leadership: meta-analytic findings and implications for research and practice," *J. Appl. Psychol.*, vol. 87, no. 4, p. 611, 2002.
- [53] D. I. Jung and B. J. Avolio, "Opening the black box: An experimental investigation of the mediating effects of trust and value congruence on transformational and transactional leadership," *J. Organ. Behav.*, vol. 21, no. 8, pp. 949–964, 2000.
- [54] P. M. Podsakoff, S. B. MacKenzie, and D. W. Organ, "Organizational citizenship behavior: Its nature, antecedents, and consequences." Thousand Oaks: Sage Publications, 2006.
- [55] B. J. Avolio and B. M. Bass, "Individual consideration viewed at multiple levels of analysis: A multi-level framework for examining the diffusion of transformational leadership," *Leadersh. Q.*, vol. 6, no. 2, pp. 199–218, 1995.
- [56] B. J. Avolio, *Full leadership development: Building the vital forces in organizations*. Sage, 1999.
- [57] R. Pillai, C. A. Schriesheim, and E. S. Williams, "Fairness perceptions and trust as mediators for transformational and transactional leadership: A two-sample study," *J. Manage.*, vol. 25, no. 6, pp. 897–933, 1999.
- [58] L. K. Jena, S. Pradhan, and N. P. Panigrahy, "Pursuit of organisational trust: Role of employee engagement, psychological well-being and transformational leadership," *Asia Pacific Manag. Rev.*, pp. 1–8, 2017.
- [59] G. Yukl, "Effective leadership behavior: What we know and what questions need more attention," *Acad. Manag. Perspect.*, vol. 26, no. 4, pp. 66–85, 2012.

- [60] B. Afsar and M. Masood, "Transformational Leadership, Creative Self-Efficacy, Trust in Supervisor, Uncertainty Avoidance, and Innovative Work Behavior of Nurses," *J. Appl. Behav. Sci.*, vol. 54, no. 1, pp. 36–61, 2018.
- [61] K. B. Lowe, K. G. Kroeck, and N. Sivasubramaniam, "Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature," *Leadersh. Q.*, vol. 7, no. 3, pp. 385–425, 1996.
- [62] F. O. Walumbwa and C. A. Hartnell, "Understanding transformational leadership--employee performance links: The role of relational identification and self-efficacy," *J. Occup. Organ. Psychol.*, vol. 84, no. 1, pp. 153–172, 2011.
- [63] G. Wang, I.-S. Oh, S. H. Courtright, and A. E. Colbert, "Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research," *Gr. Organ. Manag.*, vol. 36, no. 2, pp. 223–270, 2011.
- [64] B. Bass and B. Avolio, *MLQ multifactor leadership questionnaire*. Mind Garden, 1995.
- [65] P. M. Podsakoff, S. B. MacKenzie, R. H. Moorman, and R. Fetter, "Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors," *Leadersh. Q.*, vol. 1, no. 2, pp. 107–142, 1990.
- [66] M. Škerlavaj, J. H. Song, and Y. Lee, "Organizational learning culture, innovative culture and innovations in South Korean firms," *Expert Syst. Appl.*, vol. 37, no. 9, pp. 6390–6403, 2010.
- [67] C. McGrath and D. Zell, "The future of innovation diffusion research and its implications for management: A conversation with Everett Rogers," *J. Manag. Inq.*, vol. 10, no. 4, pp. 386–391, 2001.
- [68] H. Ibarra, "Network centrality, power, and innovation involvement: Determinants of technical and administrative roles," *Acad. Manag. J.*, vol. 36, no. 3, pp. 471–501, 1993.
- [69] R. V Krejcie and D. W. Morgan, "Determining sample size for research activities," *Educ. Psychol. Meas.*, vol. 30, no. 3, pp. 607–610, 1970.
- [70] J. F. Hair Jr, G. T. M. Hult, C. Ringle, and M. Sarstedt, *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications, 2016.
- [71] U. Sekaran, "Research Methods for Business: A Skill Building Approach," John Wiley Sons, New York, 2003.
- [72] R. B. Darlington and A. F. Hayes, *Regression analysis and linear models: Concepts, applications, and implementation*. Guilford Publications, 2016.
- [73] R. S. Lin and J. Hsiao, "The Relationships between Transformational Leadership , Knowledge Sharing , Trust and Organizational Citizenship Behavior," *Int. J. Innov. Manag. Technol.*, vol. 5, no. 3, pp. 3–6, 2014.
- [74] K. Verbraak, "Transformational leadership and employee well-being," 2015.
- [75] M. Hussain Uddin, "Role of Transformational Leadership in Organizational Change: Mediating Role of Trust," *IOSR J. Bus. Manag.*, vol. 7, no. 2, pp. 72–76, 2013.