

Reviewing the relationship between Authentic Leadership, Employee Engagement, and Organizational Innovation: Telecommunication Sector in Malaysia

Abdiaziz Mohamed Abdirahman^{*} and Seow Ta Wee

Faculty of Technology Management & Business,
Universiti Tun Hussein Onn Malaysia,
86400, Batu Pahat, Malaysia
hiirad1000@gmail.com

Abstract

The purpose of this paper is to create a conceptual model that, based on the previous studies, links authentic leadership, employee engagement, and organizational innovation in the telecommunication sector in Malaysia, as well as to explain how employees engage and influence organizational innovation. The findings of the research help the Malaysian telecommunications sector as well as academicians. By embracing the conceptual model, the telecommunications industry may reap the advantages of innovative and engaged employees by deepening knowledge of the mediating role of employee engagement in the relationship between authentic leadership and organizational innovation. In addition, the research supports theory development.

Keywords

Authentic leadership, Employee engagement, Organizational innovation, Malaysia Telecommunication Sector.

1. Introduction

Innovation is essential for gaining a competitive advantage (Udriyah, Tham, and Azam 2019). Organizations fail to establish the conditions for long-term development if they do not innovate. As a result, organizations must place a high priority on innovation in order to achieve long-term achievement. According to Anderson, Potocnik, and Zhou (2014), it is impossible for organizations to become innovative accidentally. Organizations require various activities that contribute to organizational effectiveness by requiring innovative functioning at all levels throughout the organization (Shanker et al., 2017). Van de Ven's (1986) and Schumpeter (1942) emphasize that the importance of innovation for the business organization and society is seldom challenged currently. On the other hand, a large number of psychologists and management researchers describe innovation as a natural part of human activity. The term "innovation" is inadequate since it excludes a large number of individuals. Johannsson et al. (2015) assert that innovation may take different forms, some of which are unrelated to research and development or technology. The most critical factor of an organization's innovative success formula is its human resources. Employees "develop, carry, react to, and modify ideas. Innovation is based on ideas (Van de Ven, 1986). According to Woodman, Sawyer, and Griffin (1993), organizational innovation belongs to innovation, which depends on individual creativity. An organization's innovative potential is determined by its employees' knowledge, skills, and capabilities (Ismailova, 2020).

Additionally, employees that demonstrate a commitment to working for their firm significantly enhance their performance. To summarize, authenticity is vital for a leader's charisma (Bass, 1985). Employees of authentic leaders specify more strongly with the leader and the organization, according to (Edu-Valsania, Moriano, and Molero, 2016), have a higher level of trust in the leader, higher levels of work engagement (Melhem, and Al Qudah, 2019). Authentic leadership depends upon the supervisor's perception of authentic behaviour and the perception of workers. The purpose of this study is to determine the impact of perceived authentic leadership on the relationship between employee engagement and organizational innovation. To be more specific, we investigate authentic leadership from both the supervisor and employee perspectives in order to determine its effect on employee work engagement and organizational innovation. There was sufficient evidence to support the idea of leadership as a multilevel model on a theoretical and empirical basis (Yammarino et al., 2005).

Gallup's more in-depth research demonstrates a significant relationship between employee engagement and innovation. Engagement is a crucial factor in fostering innovative working practices. Any attempt for innovation fails without engagement. Despite, to understand the impact of authentic leadership on organizational innovation through employee engagement is still relatively underdeveloped. Numerous researchers have linked authentic leadership to employee engagement and organizational innovation. However, there has been limited research into how employee engagement as a mediator may be promoted in the telecommunications sector. There is still a gap in the study about authentic leadership, employee engagement, and organizational innovation. This study triggered that an investigation of the relationship between employee engagement and organizational innovation in Malaysia's telecommunications sectors needs to examine.

1.1 Objectives

To investigate the relationship between authentic leadership, employee engagement, and organizational innovation in the Malaysian telecommunication sector.

2. Literature Review

2.1 Authentic leadership

According to Walumbwa et al. (2008), authentic leadership is a modern leadership theory that concerns the transparency related to followers and their leaders. The following traits characterize authentic leadership: self-awareness relates to a leader's ability to self-reflect; relational transparency connected proper information data sharing and transparent relationships; self-awareness correlates to a leader's ability to self-reflect; internalized moral perspective concerned working as a role model and a high moral quality standard, and balance processing examines the appropriate information about any task before acting/doing (Walumbwa et al., 2008), Wei Zhang and Liu (2018) identified specific traits that led to the development of trait theory as well as some superior traits that differentiate leaders from followers. Trait theory, which is based on a leader's transparency, is related to authentic leadership. The leadership trait theory mainly focuses on identifying various personality traits and qualities related to authentic leadership.

Furthermore, authentic leadership is more successful than other kinds of leadership, according to Azanza et al. (2013). Authentic leadership boosts morale, increases performance, and reduces turnover (Azanza et al., 2015). Additionally, Malila Lunkka and Suhonen (2018) argued that a high level of authentic leadership conduct reduces work burnout, turnover and enhances job performance. Walumbwa et al. (2010) and Semedo, Coelho and Ribeiro, (2016) performed more research to examine the in-depth origins of authentic leadership and their direct and indirect improvement of organizations and employee problems. According to Maximo Stander and Coxen (2019), authentic leadership is essential for companies because it enhances trust and fosters job performance between supervisors and workers. Authentic leadership has philosophical, psychological, and social psychology roots (Datta, 2015). Authenticity was originally defined philosophically by ancient Greek philosophers as knowing oneself, and one's true self (Penrod, 2017) or being yourself (Gan, Heller, & Chen, 2018), knowing yourself, accepting and maintaining yourself as you are in the core of authenticity (Gan et al. 2018). Authentic leadership is a process that relies on both positive psychological capabilities and a highly developed organizational context to produce increased self-awareness and self-regulated positive behaviours in leaders and associates, thus, promoting positive self-development" (Wiewiora, & Kowalkiewicz, 2019). Generally, authenticity refers to the unhindered operation of one's true or core self in one's daily activities (Kasa, 2020).

This research required observable dimensions or measurements. According to Qiu et al., (2019), authentic leadership has four aspects first; self-awareness refers to the leader's knowledge of their own weaknesses, abilities, and objectives, as well as how others perceive their leadership. Internal and external factors influence self-awareness. Internal resources are linked to personal knowledge held by leaders, such as beliefs, desires, and emotions. External sources are concerned with self-reflection, with how people see their leadership. Second, relational transparency, which involves personal feelings such as flexibly sharing various information and expressing authentic thoughts and emotions—third, balancing processing, which refers to objectively analyzing all relevant information before making a decision. Leaders that exhibit this behaviour solicit the ideas and perspectives of those who disagree with them throughout this time period. Fourth, an internalized moral perspective refers to leaders who adhere to their own moral

principles and internal values in the face of external pressures from colleagues, organizations, and society. According to Semedo, Coelho, and Ribeiro (2017), the criteria used to assess authentic leadership include self-awareness, relational transparency, internalized moral perspective, and balancing processing.

2.2 Employee engagement

Employee engagement creates a significant competitive advantage over others, which leads to exceptional performance. Employee engagement measures how dedicated and committed employees are to their organization and its ideals. Additionally, "active use of emotions" and "intellectual commitment" promote workplace engagement (Pandita and Ray, 2018). It is worth noting that positive feelings like joy, confidence, trust, and anticipation are more likely to lead to employee engagement. Employees with positive emotions promote engagement because they prefer to concentrate on the result and objective of the organization rather than the current circumstance. According to Gallup, skilled and gifted employees, high achievers, creative, displaying new ideas, enthusiastic, and curious about their responsibilities at work are more likely to be engaged than their colleagues who are not (Ascar, 2019). Sharma and Nambudiri (2020); Jia et al. (2019) confirmed employee engagement as the employees' positive emotional, cognitive, and behavioural motivation concerning organizational outcomes. In addition to positive organizational results, employee engagement also exhibits individual positive results, according to Jia et al. (2019).

Employee engagement is the significance that occurs when involvement, striving, absorption, concentration, and participation are present. Second, employee engagement as a behavioural energy, or how others perceive employee engagement. Employee engagement is apparent to others in the form of observable behaviour. According to Na-Nan, Pukkeeree, and Chaiprasit (2020), employee engagement indicators have three dimensions: first, vigour (enthusiasm), which is a characteristic defined by high levels of strength and mentality at work, a desire to try sincerely in work, and persistence in the face of obstacles. Second, dedication is defined as meaning, enthusiasm, inspiration, pride, and challenge at work. People with high levels of dedication deeply identify with their work because it provides valuable, motivating, and challenging experiences. Apart from that, they are typically enthusiastic and satisfied with their work. Although low dedication scores indicate that a person does not identify with their work due to a lack of significant, inspirational, or difficult experiences, they also indicate unenthusiastic and proud of their work. Thirdly, absorption (preoccupation) at work, employees are continuously conscientious and committed to their jobs. At work, time feels rushed, and it's tough to detach from work. Employee engagement measurement is used in this research to refer to the measurement utilized according to Seymour and Geldenhuys (2018).

2.3 Organizational innovation

Organizational innovation mainly improves the employees' work efficiency or achieves the goals and then enhances organizational performance. It is necessary to first define innovation in order to determine what it is and what it is not. Innovation refers to introduces new methods and significantly improved products (goods or services), processes, new marketing techniques, or new organizational structure in a company's internal practices, workplace organization, and external relationships (Rajapathirana, & Hui, 2018). According to this definition, companies may develop or execute four categories of innovation: product, process, organizational, and marketing. However, different kinds of innovations are employed to explain the same phenomena. For instance, Jimenez-Jimenez, Martinez-Costa, and Rodriguez (2019) emphasized that innovations include new goods, new production methods, new supply sources, new methods of exploiting new markets, and a new way of business. According to some researchers, innovation transforms knowledge into commercial value, developing new applications to provide novelty to an economic sector (Gong et al. 2020). According to Simao, and Franco (2018) and Imran, et al., (2021), studies the significance of innovation as a source of ongoing socioeconomic growth is apparent. With a lack of innovation over a long period of time, the greatest products eventually become old news, necessitating the need for creativity, new ideas, and activities to avoid falling behind in the fast-paced commercial field. Researchers have always been fascinated by innovation and its driving factors. Inquisitive scholars from many disciplines have studied the variables that promote organizational innovation in various sectors. And a significant variety of factors that influence innovation in technology, products, services, and other operational processes have been identified.

3. Hypothesis Development

3.1 The relationship between authentic leadership and employee engagement

This study aims to investigate the relationships between authentic leadership and employee engagement in Malaysian telecommunication industries. First, to investigate the primary research question of how authentic leadership affects employee engagement directly. For example, Goestjahjanti et al. (2020) demonstrated that authentic leadership positively impacts employee engagement and organizational performance via previous research. According to specific theories, authentic leadership affects employee engagement by enhancing employees' commitment, satisfaction, and enthusiasm for work (Oh Cho and Lim 2018). Similarly, Tak, Seo, and Roh (2019) showed in their authentic leadership research that authentic leaders increase followers' engagement by increasing their identification with the leader and organization and encouraging hope, trust, optimism, and positive emotions. As a result, the following relationship is possible to hypothesize:

H1: Authentic leadership has a positive impact on employee engagement.

3.2 The relationship between authentic leadership and organizational innovation

Organizational innovation is defined as the development of significant and appropriate new products/services inside an organizational context, according to Apsite Vitolina and Luca (2017). The following is a collection of a common list of innovation definitions. Innovation is the implementation and modification process of a product with two categories, the area decor and the design. The business model provides a market for commodities that defines the consumers and community in an area; they share and recommend the innovative idea as unique and necessary during the time period, experts and scholars attempt to understand the role of innovation in achieving organizational performance and long-term performance in tackling turbulence in the outside environment. The impact of leadership on innovation has been of interest in recent years. Cummings and O'Connell (1978) believe leadership is the most significant element of their organizational innovation research.

Several empirical types of research have demonstrated the positive effects of leadership (participatory and collaborative leadership styles) and the quality of the relationship between a leader and followers (Scott & Bru et al., 1994). Authentic leaders may impact innovation. They may be more innovative than conventional approaches to leadership. Authentic leaders promote creativity through establishing trust, promoting hope, optimism, and resilience. Previous research thus indicates that authentic leadership has a significant role in enhancing organizational innovation via relationships with organizational employees. Transparency in relationships is an authentic leadership component that may promote innovation. Empirical study has demonstrated that the connection and relationship quality influence innovative activities by employees, which in turn affects organizational innovation according to (Yuan & Woodman, 2010). This research, therefore, suggests the following hypotheses.

H2: Authentic leadership is a positive impact on organizational innovation.

3.3 The relationship between employee engagement and organizational innovation

According to Arshi and Rao (2019), for increasing innovation potential, technological advancement provides freedom and flexible work to employees (Omar & Asif (2016). Moreover, by interacting with external surroundings, employees have more time to ponder and incubate for promoting innovation. An additional aspect that affects innovation is job autonomy. According to Arshi and Rao (2019), employee job autonomy enhances empowerment and decreases interference, promoting innovative behaviour. Likewise, job design boosts innovation by influencing innovative behaviour and innovation such as products and services (Arshi and Rao 2019; Bos-Nehles and Veenendaal 2019; and Battistelli et al., 2019). In a study of the importance of employee engagement as a precursor to innovation, Hess and Mai (2014) argued that innovation is hard to accomplish due to the complicated emotional and psychological processes involved. Employee engagement factors, according to studies, are emotional and psychological aspects that are critical for both creativity and innovation. However, little research has explored these human variables, especially employee engagement, related to innovation facilitation.

As a consequence of this, the following hypothesis is proposed. Due to the positive relationship between employee engagement and organizational innovation, there is an increased interest in its antecedents and potential actions to develop and enhance it (Bailey et al., 2017). However, academic research on the link between employee engagement and organizational innovation has been limited (Bailey et al., 2017). There is a lack of understanding of the factors contributing to employee engagement and the most available interventions for improving it. (Strobel et al., 2017). According to research, employee engagement is related to organizational innovation (Bailey et al., 2017). According to Bailey et al. (2017), engaged employees feel empowered, confident, satisfied, and impressed with their jobs, contributing to increased retention and developing innovative ideas. According to the study, there is a positive correlation between employee engagement and organizational innovation in Malaysia's telecommunications industry.

H3: Employee engagement has a positive impact on organizational innovation.

3.4 The mediating role of employee engagement

Employee engagement is a critical factor towards boosting organizational innovation. According to Rao (2017), employee engagement links employees' hands, minds, and hearts to their organizations' mission and vision. Individuals who have positive working relationships with their superiors are more innovative than those who have negative exchange relationships with their supervisors and lack leader support and encouragement to deal with workplace risks, promoting non-innovative behaviour (Messmann and Mulder, 2020). Furthermore, Garg and Dhar (2017) described the unique relationship that emerges over time due to anticipated responsibilities and the employee's fulfilment of those expected duties. For example, Karim and Majid (2017), agreed with Garg and Dhar (2017) and Rao (2017) in asserting that employee engagement results in an increased individual or group performance. To conclude, executives should pay special attention to employees who identify problems with procedures. And actively provide ideas or solutions toward innovation.

Evidently, explanation contrasts our research variables, namely authentic leadership, employee engagement, and organizational innovation, using the four hypotheses to test empirically. However, essentially hypothesizing as to authentic leadership, employee engagement, and organizational innovation fit or as a predictor of employee engagement as mediators between these variables. We propose a research framework in Figure 1 to investigate the role of employee engagement mediating the effect between authentic leadership and organizational innovation fit. We also proposed Hypothesis 4, which we believe to be indicative of the whole framework.

H4: Employee engagement mediates the relationship between authentic leadership and organizational innovation.

According to the literature review, the researcher also demonstrated a positive relationship between authentic leadership and organizational innovation (Elrehail et al., 2018). The findings confirm earlier expectations about the authentic leadership affect employee engagement; furthermore, in the Netherlands, Poland, and Spain, employee engagement mediates the relationship between authentic leadership and innovative behaviour in several industries (Laguna et al., 2019). Furthermore, employee engagement has a direct impact on innovation (Arshi, & Rao, 2019). Authentic leadership, employee engagement, and organizational innovation are examples of such outcomes. According to Alblooshi et al. (2020) (Alblooshi, Shamsuzzaman, & Haridy, 2020), authentic leadership is directly and indirectly linked to employee engagement and organizational innovation. As illustrated in Figure 1, the conceptual model is developed on previous research models and gap analyses. Authentic leadership provides Malaysian telecommunications industry employees with a mission, vision, and aims and promotes resolving problems and reasonableness. Authentic leadership may significantly increase organizational innovation via employee engagement because a workplace that inspires employee development, innovation, and engagement enhances corporate organizational innovation, growth, and creativity.

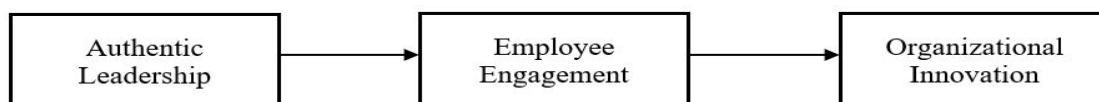


Figure 1. Conceptual framework

4. Methodology

The systematic literature review finds that the past research studies adopted the questionnaires for measuring the variables (i.e., authentic leadership, employee engagement, innovation). Likewise, the research studies found variables instruments; for example, the scale of authentic leadership consists of 16 components. Employee engagement was adapted from Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002). The measure is based on three elements and 17 items, vigour, dedication, and absorption. The organizational innovation scale consists of 12 items with three elements (Product, Service, and Marketing) adapted from (Wilcox 1994).

Table 1. The previous studies analysis

Authors	Variables	Countries	Beta value
(Elrehail, <i>et al.</i> , (2018)	Transformational, Authentic leadership, process and product innovation	Jordan	(Beta 0.183) Authentic leadership has impact on innovation
Laguna, <i>et al.</i> , (2019)	Authentic leadership, Employee Engagement, Personal Initiative, Innovative Behaviour	Netherlands, Poland, and Spain	(Beta 0.13) Authentic leadership has impact on employee engagement.
Arshi, & Rao, (2019)	Employee Engagement, Innovation Readiness for Innovation	Sultanate of Oman	(Beta 0.58) Employee engagement has impact on innovation.

Table 1 presents the previous studies results for identifying the future study gap that findings displayed that authentic leadership and employee engagement have a positive impact on organizational innovation directly. Furthermore, employee engagement plays a role mediator between authentic leadership and organizational innovation. Thus, this research is a more comprehensive understanding of the role of employee engagement in authentic leadership and organizational innovation in Malaysia's telecommunications industries. Notably, employee engagement is a critical area on which the telecommunications industry should focus in order to foster leadership and innovative behaviour among employees, resulting in improved productivity and performance for the organization as a whole. However, there is still a missing mediation relationship that emphasized researchers' need to conduct empirical studies.

5. Discussion

This research helps in the promotion of workplace innovation. It is prudent to keep employee engagement and employee innovation distinct because engaged employees feel enthusiastic about their duties and tasks, which encourages them to think creatively. Empirical research has revealed that engaged employees are excited and more eager to engage in innovative behaviour. According to the findings of this research, employee engagement is a crucial element and role of authentic leadership and organizational innovation in the workplace. In order to thrive, the two phenomena require almost identical circumstances. Both internal and external factors, corporate innovation, and leadership are all part of these circumstances. This study validated the proposed research model's mediating role of employee engagement on authentic leadership and organizational innovation, providing an opportunity for Malaysia's telecommunications sector to re-examine their strategies for fostering employee leadership style and innovation by strengthening the relevant constructs.

6. Implication, Limitation and Conclusion of the Study

This research provides a helpful framework for decision-makers in Malaysia's telecom sector, demonstrating how authentic leadership and employee engagement influence organizational innovation. The findings benefit those decision-makers who practice innovation in their businesses; with this article's assistance, they now have a fundamental understanding of how innovation impacts organization performance in the telecom industry. Process, product, and marketing are the only three kinds of organizational innovation examined in this research. Another gap in this research is that it needs to conduct in telecommunications organizations in Malaysia studied. Future research

may focus on green innovation, environmental innovation, sustainable innovation, knowledge management, and sharing.

References

- Alblooshi, M., Shamsuzzaman, M., & Haridy, S. (2020). The relationship between leadership styles and organizational innovation. *European Journal of Innovation Management*.
- Anderson, N., Potočník, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management*, 40(5), 1297-1333.
- Apsite, A., Vitolina, I. B., & Luca, J. (2017). Organizational Innovations and Knowledge Management: in Search for A Theoretical Framework. *New Challenges of Economic and Business Development–2017 Digital Economy*, 17.
- Arshi, T., & Rao, V. (2019). Assessing impact of employee engagement on innovation and the mediating role of readiness for innovation. *International Journal of Comparative Management*, 2(2), 174-202.
- Ascar, L. S. (2019). A Phenomenological Study Exploring Global Women Leader's Support of Employee Engagement in Information Technology Career Fields (Doctoral dissertation, Indiana Institute of Technology).
- Azanza, G., Moriano, J. A., Molero, F., & Mangin, J. P. L. (2015). The effects of authentic leadership on turnover intention. *Leadership & Organization Development Journal*.
- Bailey, C., Madden, A., Alfes, K., & Fletcher, L. (2017). The meaning, antecedents and outcomes of employee engagement: A narrative synthesis. *International Journal of Management Reviews*, 19(1), 31-53.
- Bass, B. M., & Bass Bernard, M. (1985). Leadership and performance beyond expectations.
- Battistelli, A., Odoardi, C., Vandenberghe, C., Di Napoli, G., & Piccione, L. (2019). Information sharing and innovative work behavior: The role of work-based learning, challenging tasks, and organizational commitment. *Human Resource Development Quarterly*, 30(3), 361-381.
- Bos-Nehles, A. C., & Veenendaal, A. A. (2019). Perceptions of HR practices and innovative work behavior: the moderating effect of an innovative climate. *The International Journal of Human Resource Management*, 30(18), 2661-2683.
- Bos-Nehles, A., Renkema, M., & Janssen, M. (2017). HRM and innovative work behaviour: A systematic literature review. *Personnel review*.
- Burcharth, A., Knudsen, M. P., & Søndergaard, H. A. (2017). The role of employee autonomy for open innovation performance. *Business Process Management Journal*.
- Carvalho, N., Carvalho, L., & Nunes, S. (2015). A methodology to measure innovation in European Union through the national innovation system. *International Journal of Innovation and Regional Development*, 6(2), 159-180.
- Cummings, L. L., & O'Connell, M. J. (1978). Organizational innovation: A model and needed research. *Journal of Business Research*, 6(1), 33-50.
- Datta, B. (2015). Assessing the effectiveness of authentic leadership. *International Journal of Leadership Studies*, 9(1), 62-75.
- Edú-Valsania, S., Moriano, J. A., & Molero, F. (2016). Authentic leadership and employee knowledge sharing behavior. *Leadership & Organization Development Journal*.
- Elrehail, H., Emeagwali, O. L., Alsaad, A., & Alzghoul, A. (2018). The impact of transformational and authentic leadership on innovation in higher education: the contingent role of knowledge sharing. *Telematics and Informatics*, 35(1), 55-67.
- Gan, M., Heller, D., & Chen, S. (2018). The power in being yourself: Feeling authentic enhances the sense of power. *Personality and Social Psychology Bulletin*, 44(10), 1460-1472.
- Garg, S., & Dhar, R. (2017). Employee service innovative behavior: The roles of leader-member exchange (LMX), work engagement, and job autonomy. *International Journal of Manpower*.
- Goestjahjanti, S. F., Novitasari, D., Hutagalung, D., Asbari, M., & Supono, J. (2020). Impact of Talent Management, Authentic Leadership and Employee Engagement on Job Satisfaction: Evidence from South East Asian Industries. *Journal of Critical Reviews*, 7(19), 67-88.
- Gong, H., Nie, L., Peng, Y., Peng, S., & Liu, Y. (2020). The innovation value chain of patents: Breakthrough in the patent commercialization trap in Chinese universities. *Plos one*, 15(3), e0230805.
- Hess, D. J., & Mai, Q. D. (2014). Renewable electricity policy in Asia: a qualitative comparative analysis of factors affecting sustainability transitions. *Environmental Innovation and Societal Transitions*, 12, 31-46.
- Imran, M., Ismail, F., Arshad, I., Zeb, F., & Zahid, H. The mediating role of innovation in the relationship between organizational culture and organizational performance in Pakistan's banking sector. *Journal of Public Affairs*, e2717.
- Ismailova, M. F. (2020). innovative potential of a human-worker as a factor of the humanization of economy. *Economic and Social Development: Book of Proceedings*, 3, 334-337.

- Jia, Y., Yan, J., Liu, T., & Huang, J. (2019). How does internal and external CSR affect employees' work engagement? Exploring multiple mediation mechanisms and boundary conditions. *International journal of environmental research and public health*, 16(14), 2476.
- Jimenez-Jimenez, D., Martínez-Costa, M., & Rodriguez, C. S. (2019). The mediating role of supply chain collaboration on the relationship between information technology and innovation. *Journal of Knowledge Management*.
- Johannsson, M., Wen, A., Kraetzig, B., Cohen, D., Liu, D., Liu, H., ... & Zhao, Z. (2015). Space and Open Innovation: Potential, limitations and conditions of success. *Acta Astronautica*, 115, 173-184.
- Kahn, K. B. (2018). Understanding innovation. *Business Horizons*, 61(3), 453-460.
- Karim, D. N., & Majid, A. H. A. (2017). The effect of high performance HR practices on knowledge sharing behavior: the mediating role of employee engagement. *International Postgraduate Business Journal*, 9(2), 74-88.
- Kasa, M. D., Shamsuddin, M. F., Yaakob, M. F. M., Yusof, M. R., & Sofian, F. N. R. M. (2020). Exploring the Influence of a Principal's Internalized Moral Perspective towards Teacher Commitment in Malaysian Secondary Schools. *Journal of Education and e-Learning Research*, 7(3), 323-333.
- Laguna, M., Walachowska, K., Gorgievski-Duijvesteijn, M. J., & Moriano, J. A. (2019). Authentic leadership and employees' innovative behaviour: a multilevel investigation in three countries. *International journal of environmental research and public health*, 16(21), 4201.
- Le, P. B., & Lei, H. (2019). Determinants of innovation capability: the roles of transformational leadership, knowledge sharing and perceived organizational support. *Journal of Knowledge Management*.
- Malila, N., Lunkka, N., & Suhonen, M. (2018). Authentic leadership in healthcare: a scoping review. *Leadership in Health Services*.
- Maximo, N., Stander, M. W., & Coxen, L. (2019). Authentic leadership and work engagement: The indirect effects of psychological safety and trust in supervisors. *SA Journal of Industrial Psychology*, 45(1), 1-11.
- Melhem, Y. S., & Al Qudah, M. F. (2019). Work Engagement: Trust and Respect to Engage your People. *Indian Journal of Science and Technology*, 12(17), 1-13.
- Messmann, G., & Mulder, R. H. (2020). A short measure of innovative work behaviour as a dynamic, context-bound construct. *International Journal of Manpower*.
- Na-Nan, K., Pukkeeree, P., & Chairasit, K. (2020). Employee engagement in small and medium-sized enterprises in Thailand: the construction and validation of a scale to measure employees. *International Journal of Quality & Reliability Management*.
- Oh, J., Cho, D., & Lim, D. H. (2018). Authentic leadership and work engagement: the mediating effect of practicing core values. *Leadership & Organization Development Journal*.
- Omar, F.K. and Asif, I.F. (2016) 'Work life balance: a conceptual review', *Journal of Strategic Human Resource Management*, Vol. 5, No. 2, pp.20–25.
- Pandita, D., & Ray, S. (2018). Talent management and employee engagement—a meta-analysis of their impact on talent retention. *Industrial and Commercial Training*.
- Penrod, A. K. (2017). Authentic leadership in US skilled nursing facilities: A multiple case study (Doctoral dissertation, Capella University).
- Qiu, S., Alizadeh, A., Dooley, L. M., & Zhang, R. (2019). The effects of authentic leadership on trust in leaders, organizational citizenship behavior, and service quality in the Chinese hospitality industry. *Journal of Hospitality and Tourism Management*, 40, 77-87.
- Rajapathirana, R. J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation & Knowledge*, 3(1), 44-55.
- Rao, M. S. (2017). Innovative tools and techniques to ensure effective employee engagement. *Industrial and Commercial Training*.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness studies*, 3(1), 71-92.
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of management journal*, 37(3), 580-607.
- Semedo, A. S. D., Coelho, A. F. M., & Ribeiro, N. M. P. (2016). Effects of authentic leadership, affective commitment and job resourcefulness on employees' creativity and individual performance. *Leadership & Organization Development Journal*.
- Semedo, A. S. D., Coelho, A. F. M., & Ribeiro, N. M. P. (2017). Authentic leadership and creativity: the mediating role of happiness. *International Journal of Organizational Analysis*.
- Seymour, M. A., & Geldenhuys, D. J. (2018). The impact of team dialogue sessions on employee engagement in an information and communication technology company. *SA Journal of Human Resource Management*, 16(1), 1-11.

- Shanker, R., Bhanugopan, R., Van der Heijden, B. I., & Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of vocational behavior*, 100, 67-77.
- Shanker, R., Bhanugopan, R., Van der Heijden, B. I., & Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of vocational behavior*, 100, 67-77.
- Sharma, A., & Nambudiri, R. (2020). Work engagement, job crafting and innovativeness in the Indian IT industry. *Personnel Review*.
- Simao, L., & Franco, M. (2018). External knowledge sources as antecedents of organizational innovation in firm workplaces: a knowledge-based perspective. *Journal of Knowledge Management*.
- Strobel, M., Tumasjan, A., Spoerrle, M., & Welpe, I. M. (2017). Fostering employees' proactive strategic engagement: Individual and contextual antecedents. *Human Resource Management Journal*, 27(1), 113-132
- Tak, J., Seo, J., & Roh, T. (2019). The influence of authentic leadership on authentic followership, positive psychological capital, and project performance: testing for the mediation effects. *Sustainability*, 11(21), 6028.
- Udriyah, U., Tham, J., & Azam, S. (2019). The effects of market orientation and innovation on competitive advantage and business performance of textile SMEs. *Management Science Letters*, 9(9), 1419-1428.
- Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management science*, 32(5), 590-607.
- Walumbwa, F. O., Wang, P., Wang, H., Schaubroeck, J., & Avolio, B. J. (2010). Retracted: Psychological processes linking authentic leadership to follower behaviors.
- Wei, Zhang and Liu, (2018). The interactive effect of authentic leadership and leader competency on followers' job performance: The mediating role of work engagement. *Journal of Business Ethics*, 153(3), 763-773.
- Wiewiora, A., & Kowalkiewicz, A. (2019). The role of authentic assessment in developing authentic leadership identity and competencies. *Assessment & Evaluation in Higher Education*, 44(3), 415-430.
- Wilcox, D. C. (1994). Simulation of transition with a two-equation turbulence model. *AIAA journal*, 32(2), 247-255.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of management review*, 18(2), 293-321.
- Xu, B. D., Zhao, S. K., Li, C. R., & Lin, C. J. (2017). Authentic leadership and employee creativity: testing the multilevel mediation model. *Leadership & organization development journal*.
- Yammarino, F. J., Dionne, S. D., Chun, J. U., & Dansereau, F. (2005). Leadership and levels of analysis: A state-of-the-science review. *The leadership quarterly*, 16(6), 879-919.
- Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of management journal*, 53(2), 323-342.

AUTHOR BIOGRAPHIES

Abdiaziz Mohamed Abdirahman is currently a PhD student at the Faculty of Technology Management & Business, Universiti Tun Hussein Onn Malaysia. He received his Master from Electrical and Electronics Engineering major in Communication engineering (FKEE), Universiti Tun Hussein Onn Malaysia. His current research interest is human resource management in telecommunication sector.

Associate Professor Dr Seow Ta Wee transdisciplinary and interdisciplinary research united geography, environment, social science, and safety & health into the research's current niche area, especially in social development and environmental management. He was also appointed as the consultant, external examiner, guest lecturer, keynote speaker, inaugural lecture speaker, and visiting research scholar and liaison person at national and international levels. He published about 320 articles in a journal, conference papers, technical papers and chapters in a book, 20 technical reports and seven books. He supervises 40 postgraduate students included post-doctoral.