

The Impact of Ethical Leadership on Environmental Performance in the Construction Industry: Mediating Role of Environmental Innovation and Innovation Climate

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ABSTRACT

While crucial to overall economic growth, the construction industry also has a reputation for significant environmental impacts. There is a pressing need to adopt more environmentally friendly procedures in this sector in light of growing worldwide concerns about sustainability. This study delved into the pivotal role of ethical leadership in influencing environmental performance in the construction industry, particularly within the Kuwaiti context. Leveraging a multi-faceted approach, the study examined the mediating effects of environmental innovation and the overarching innovation climate fostered by ethical leaders. Following a quantitative approach, the hypotheses developed in light of the literature were tested using structural equation modeling (SEM). An empirical survey was conducted among 230 construction industry workers in Kuwait. The results confirm the relationship between ethical leadership and improved environmental performance. Furthermore, both environmental innovation and the broader innovation climate significantly mediated this relationship. The authors suggest further investigation into the role of additional potential variables as mediating and/or moderating factors. Recommendations are also made for the top management of construction firms for their consideration of environmental innovation and the innovation climate, along with the improvement of environmental performance.

Keywords: Ethical Leadership, Environmental Innovation, Innovative Climate, Environmental Performance, Construction Industry, Kuwait

ARTICLE INFO

Article History:

Received: 28 September 2023

Accepted: 01 January 2024

Available online: 01 April 2024

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INTRODUCTION

Growing levels of global warming, which are in turn a result of environmental degradation and climate change, have increased stakeholders' concern about the persistence of environmental problems. Strategic efforts are being undertaken at all levels to overcome the tension between environmental protection and economic development. The importance of cleaning up the environment has grown since the turn of the century. Environmental performance (EP) is essential for preventing pollution, environmental emissions, and waste from harming the environment and keeping businesses running smoothly (Kim et al., 2019). Researchers have paid increased attention to organizations' EP in recent decades. As part of its efforts to preserve the planet's natural resources and the environment, the Kuwaiti government has also placed a premium on environmental efficiency (Alsanad, 2015; Ottesen et al., 2023). The Kuwaiti government has been focusing on environmental efficiency and sustainability as part of its efforts to preserve the planet's natural resources and the environment. One of such measures has been working towards the achievement of the Kuwait National Development Plan (KNDP) by focusing on environmental sustainability in its cities. The KNDP focuses on improving waste services, boosting energy efficiency, and promoting green infrastructure (UNDP, 2022). Kuwait is systematically prioritizing efficiency to conserve resources and transition to a greener, more sustainable economy over the long run.

EP of a construction company is defined as the company's accomplishments in managing any interaction between construction operations and the environment (Morledge & Jackson, 2001). The EP of construction businesses is crucial to environmental protection (Polster et al., 1996). While construction helps people and society advance, it also has severe negative effects on the environment (Bossink, 1996). Kuwait's construction industry has been booming in recent years due to several factors, including, government support for infrastructural development, tax reforms that have encouraged foreign investments, and attempts to diversify the economy (Mordor Intelligence, 2023; MWR, 2023). The Kuwait construction market size is estimated to be USD 13.16 billion in 2023 and is expected to reach USD 17.55 billion by 2028, growing at a compound annual growth rate (CAGR) of 5.93% (Mordor Intelligence, 2023). While the growth of the Kuwait construction sector has benefited

the country economically, it has also created a number of problems for the environment. Most building and demolition waste is disposed of in landfills or untreated dumping sites, which leads to land degradation and groundwater contamination (Al-Raqeb et al., 2023). The construction industry is also responsible for a large proportion of global CO₂ emissions (Alsanad, 2015). The construction industry's impact on the environment is significant. To overcome these challenges and promote sustainable construction practices, there is a need for increased awareness, better planning, and effective waste management strategies in the country (Ismael & Shealy, 2018).

In recent years, there has been growing recognition of the potential of ethical leadership (EL) as a catalyst for advancing sustainable practices across a wide range of sectors. For example, Ogaga et al. (2023) showed that EL positively affects the sustainability of firms in the agro-allied sector. Also Khan et al. (2019) showed the impact of EL organizational environmental citizenship behavior in various manufacturing and service sector firms spanning different industries, such as electronics, insurance, health, textile, leather, automobile manufacturing, telecommunication, chemical, engineering, and glass and ceramics. In addition, both Ren et al. (2020) and Ahmad et al. (2021) showed that EL of a chief executive officer (CEO) can enhance the effectiveness of green human resource management in various industries, ultimately leading to improved EP. EL is defined by the promotion of justice, respect, and moral integrity. Leaders who set an example of ethical conduct have an impact on the company's culture, decision-making processes, and operational methods, frequently encouraging them to choose long-term viability above quick profits. Ethical leaders support moral conduct by their subordinates by modeling it themselves and providing examples of how to use ethics in a practical setting and in their interactions with others (Akhmetshin et al., 2020). An ethical leader is one who puts the needs of their team members first. Employees' pro-environmental actions are influenced in a positive way by EL since it serves as a precursor to such actions (Afsar et al., 2020). The need for EL is magnified in the context of the construction sector, particularly in places like Kuwait, which face distinct environmental and cultural constraints (Alazmi, 2016). Sustainable building risks have a high likelihood of occurring due to a lack of knowledge and education, a lack of incentives, and a lack of government assistance, according to specialists in the construction sector (Ismael & Shealy, 2018). Leaders with strong ethical convictions therefore

play a crucial role in helping the Kuwaiti construction industry overcome its complex obstacles.

A company culture that promotes and rewards innovative thinking and creative problem-solving at all levels of the organization may act as a mediator between EL and long-term success. The basic assumption is that executives who care about the environment will create a culture where new ideas are encouraged and celebrated, increasing the likelihood that some of those ideas will be implemented. Leadership's propensity for environmental innovation (EI), as shown in their knowledge and outlook, is thus seen as crucial for driving EI. Ethical leaders care about their teams, communities, and the planet as a whole, and they work tirelessly to achieve sustainable development targets (Brown, 2010). Ilyas and Ashfaq (2020) and Iqbal (2021) both argued that EI is a good method for EL since it results in win-win scenarios for all stakeholders and improves sustainable performance.

Past studies have shown that EL affects business EI (Bahzar, 2019; Kim, 2018; Liu, 2019), demonstrating a correlation between the two. To guarantee the company accomplishes shared objectives in line with the corporate vision, ethical leaders serve as agents of change, mentors, housekeepers, and visionaries (Maak, 2006; Maak, 2007; Pless, 2007). Managers who lead with integrity may have a significant impact on green initiatives at their companies, helping them better satisfy crucial constituencies. Scholars have also looked at how EI relates to a company's EP, although the results have been mixed. EI has been shown to improve a company's EP by, for instance, Chiou et al. (2011) and Rennings et al. (2006); however, Carrión-Flores (2010) demonstrates that the benefit was minor.

Each individual's method of leadership may have a significant impact on the group's ability to think creatively and innovate (Amabile, 1998; Dess, 2000). It is possible that leaders in organizations will use their social influence to persuade their followers to take action (Gini, 1998). Leadership traits are the most important environmental elements for innovation, according to management researchers and practitioners (Lawton, 2010). Executives may help create a culture that encourages innovation at their companies (Soken, 2014). To do so, one must acquire the knowledge and abilities necessary for innovation, such as the ability to plan and execute projects, manage resources, design and implement learning environments,

interact with and learn from others in the ecosystem, and accept and learn from setbacks (Morris & Covin, 2010).

Leaders who model ethical conduct, honesty, and care for the welfare of their employees create an environment that is conducive to creativity and new ideas. Also, leaders who put an emphasis on ethics and environmental sustainability show their staff the value they place on being environmentally responsible. Corporate cultures that value ethical behavior and environmental responsibility are fostered by CEOs who set a good example. In turn, this culture creates a setting where new ideas may flourish. Because they believe their bosses support and promote ecologically friendly solutions, staff members feel encouraged to come up with and execute their own.

There is an abundance of research into how management techniques affect business results. The relationship between EL and EP has also been the focus of other studies. In addition, the impact of EI and innovation climate (IC) on EP has also been extensively studied, although separately. However, there has not been enough research on how these elements relate to EL in the construction business. To fill this knowledge gap, this study investigated the mediating roles of EI and IC in the relationship between EL and EP. The study's overarching goal was to provide a theoretical framework for illustrating how EL boosts EP in the construction sector by way of the mediating effect of an IC and EI. By bridging the existing knowledge gaps and offering empirical insights, this research aimed to provide a comprehensive understanding of how leadership can be the linchpin in the transition to sustainable construction practices in Kuwait and beyond.

The paper would add to the existing body of research examining the relationship between EL, EI, IC, and EP, but with a specific focus on the understudied construction industry context in Kuwait. While previous studies often explored the impact of EL on organizational outcomes (Qing et al., 2020; Saha et al., 2020; Sarwar et al., 2020), this study extends the understanding to the unique challenges and opportunities within the Kuwaiti construction sector. Additionally, the incorporation of EI and IC as mediating factors added a nuanced layer, distinguishing this research from those primarily concentrating on EL alone. While some studies have analyzed one or the other as mediators individually (García-Machado &

Martínez-Ávila, 2019; Korcu & Kaya, 2023; Majali et al., 2022), analyzing both mediators together would provide novel insights into how they interact to influence EP. By focusing on the construction industry, the findings could shed light on whether relationships found in other contexts hold true for this important industry, which has large environmental impacts. This context-specific knowledge would help address gaps in the literature. Additionally, the study proposed examining these relationships within Kuwait's business environment and culture, adding a non-Western perspective not represented in much of the existing research, which is dominated by Western samples. This cross-cultural component could enhance understanding of the generalizability of prior theoretical models. Finally, it will serve as a springboard for more research on EL in the construction sector.

The findings underscore the importance of ethical leadership in enhancing environmental performance within Kuwait's construction industry. EL in the Kuwaiti construction industry was shown to significantly influence EP, while the relationship was mediated by both EI and IC. The results demonstrated to managers in the Kuwaiti construction industry that adopting an EL approach, with a focus on integrity, fairness and sustainability, helped create an organizational climate where employees felt comfortable proposing green innovations, leading to improved EP. Leaders in construction companies should encourage sustainable practices within their teams and cultivate a culture of ethics by providing training and assistance in areas such as ethical decision-making and environmental stewardship. Policymakers may find that promoting ethical business practices through guidelines or incentives encourages the development of innovative environmental technologies and processes across the entire sector, providing evidence that cultivating an ethical culture alongside compliance policies is important for driving long-term industry sustainability impacts.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

The Effect of Ethical Leadership on Environmental Performance

Leaders that exhibit ethical behavior make choices and take actions that are consistent with established standards of right and wrong in their organizations and communities (Trevino & Harrison, 2005). These kinds of managers foster an atmosphere where caring for the planet and for future generations becomes fundamental to the company's mission. They think about how their choices will affect everyone involved, not just the bottom line, and that includes the natural world. Ethical leaders who think about the big picture when making decisions tend to have better environmental results, as has been proven in research (Aftab et al., 2022; Dey et al., 2022). Existing study results (Hay, 2010) show that EL plays a tremendous role in encouraging workers' pro-environmental behavior. The ideals, beliefs, attitudes, and moral actions of workers may be influenced by ethical leaders who are held up as role models. Bandura's (1986) Social Learning Theory was relied upon here to explain how workers acquire knowledge and skills by mimicking the actions of others they see doing similar tasks. When leaders uphold morality, order, and the law, their followers do the same.

Workers who have a positive impression of their leaders are more likely to take pride in their job and the company as a whole, which in turn increases their pro-environmental actions (Ng, 2017). Ethical leaders in any corporation will also put into motion the policies and practices that help boost pro-environmental actions across the company. Ethical leaders help organizations create and implement ethical visions and engage in sustainable activities by, among other things, modeling the desired behaviors, disseminating ethical standards, and emphasizing environmental compliance (Bandura 1977; Bandura 1986; Ones 2012). This highlights how the principles, actions, counsel, and attitudes of an ethical leader may impact the EP of a business.

According to Iqbal et al. (2020), ethical leaders are those who uphold environmental ethics and standards and aid their organizations in achieving their environmental objectives. Ethical leaders have a duty to protect the

natural world and promote environmentally responsible actions since ethics form the foundation of EL (Lee, 2017). It is argued that followers of ethical leaders develop a deep sense of ecological morality from observing their actions and that this in turn motivates them to engage in bold, selfless acts of environmental protection that benefit both the environment and humanity (Khan et al., 2019). As a result, the following hypothesis was postulated:

H1: Environmental performance is positively and significantly affected by ethical leadership.

The Effect of Ethical Leadership on Environmental Innovation

The term “environmental innovation” is used to describe the introduction of any new or significantly improved product or service, manufacturing process, reform, or marketing solutions that decrease the consumption of natural resources and the discharge of hazardous waste all through the business’s life cycle (Arundel, 2009; Carrillo-Hermosilla & Könnölä, 2009; Kemp, 2010). Through the creation of green goods and services, the definition of procedures and setups, the development of processes and systems pertaining to energy protection, contamination anticipation and organization, and trash recycling, EI aids in the reduction of ecological pollutant loss (Armanda & Tukker, 2019). EI is seen as crucial to bolstering a company’s reputation and valuation by many academics and industry experts (Gallardo-Vázquez & Castuera-Dáz, 2019). Leadership and environmental organizations may both gain from capitalizing on the positive impacts that innovations have been shown to have (Garca-Morales & Verdu-Jover, 2008).

An ethical leader is seen as someone who facilitates communication between stakeholders and acts as a broker between competing interests both inside and outside the firm (Scherer, 2011; Voegtlin, 2011). Ethical leaders are able to bring disparate groups together, leverage their emotional and ethical intelligence, and work towards a cooperative agreement. That’s why it’s crucial to have ethical leaders who can properly incorporate stakeholder perspectives into decisions on EI (Doh, 2014). Ethical leaders, therefore, inspire green thinking among their staff. Focus is improved when people internalize ethical ideals like compassion. They are more concerned with

steady advancement, and they have the morals and traits necessary for technological advances in manufacturing. This gives them the ability to inspire their team members to think outside the box. As a result, they will be better able to build rapport with their superiors (Hoch, 2013). Leaders' followers pick up on their inspiration and encouragement, and they always respond positively in kind because of the social learning theory of reciprocity. Furthermore, when subordinates have positive relationships with their bosses, they are more likely to do well in their jobs (Liden & Wayne, 1997). Subordinates will notice a leader's positive approach, form emotional bonds, and feel bound to a leader who gives them purpose in their jobs, makes their work more meaningful (Iqbal et al., 2020; Den Hartog, 2015), encourages them to be more innovative, and motivates them to be more adaptable to change (Chen, 2016). Therefore, this procedure may cause highly motivated and creative actions (Chen, 2006; Dhar, 2016).

It is the responsibility of company executives to foster an environment where workers feel safe enough to take risks while creating environmentally friendly goods and procedures (Diehl, 2017). If the status quo is harmful to the environment, then ethical leaders will push their followers to find alternatives (Neubert et al., 2008). Such leaders' ethical compass is inherently attuned to the principles of sustainability and environmental protection. Ethical leaders guarantee their firms adhere to moral norms and make sustainable advancements in operational operations by advocating environmentally friendly innovations.

Existing research provides enough evidence of a causal relationship between leadership and creativity. Care, honesty, fairness, transparency, integrity, and group motivation are essential to ethical EI methods, and they are all promoted by ethical leaders (Ye & Tan, 2022). To achieve this goal, ethical leaders focus on the interests of all parties involved and behave morally at all times (Tu, 2016; Metcalf, 2013). This method successfully balances the enterprise's economic and environmental advantages by creating a pleasant workplace and taking into account the needs of all parties involved (Demirtas, 2015). By taking a collaborative approach and allowing workers to operate autonomously, EI offers a promising means of coordinating the needs of many stakeholders (Hu, 2021). When workers are given more say over how they use company resources, they are more likely to come up with novel green goods (Liao, 2020).

The leader's cognitive biases and worldview have an impact on strategic decisions. As a result, the perspectives and expertise of businesses' leaders have a significant impact on the level of EI they implement. EL places a premium on consultation with all relevant parties and works toward a more comprehensive vision of sustainable growth. Ethical leaders may find EI to be a great way to coordinate and balance the obligations and interests of all involved parties, particularly when it comes to the enterprise's economic and environmental advantages. As a result, the following hypothesis was postulated:

H2: There is a positive relationship between ethical leadership and an organization's environmental innovation.

The Effect of Ethical Leadership on Innovation Climate

Organizational innovation and creativity need strong leadership dissemination, employee empowerment, shared accountability, and diversity support (Agbor, 2008). There are different types of workplace environments, just as there are several management philosophies. Ye et al. (2011) identify a subset of organizational climate known as the "organizational innovation climate." According to Amabile et al. (1996), an organization's "innovation climate" consists of "factors that encourage creativity, autonomy, and freedom, resources, pressure, and barriers to creativity," where "factors" refers to both positive and negative aspects of the work environment. Workload and organizational obstacles have a negative effect on employees' creativity, while encouragement of creativity (including organizational encouragement, supervisor encouragement, and team encouragement), degree of autonomy, access to adequate resources, and opportunity for challenging work have positive effects.

When there is a healthy environment for innovation, employees feel they have the backing of their superiors and peers in their pursuit of new ideas. Managers' encouraging and supportive actions communicate their expectations that workers will engage in creative activity (Tierney, 2004). Employees' intrinsic motivation and inventiveness are impacted by this level of support (Amabile et al., 1996). According to Riley and Burke's (1995) research on the topic of social interactions and role identity, the expectations of one's "colleagues" at work will have a significant impact on the workers'

ability to play imaginatively within their assigned roles. Behaviors of help are connected to what others expect of them. If a boss wants his or her staff to be innovative, for instance, he or she will act in ways that show their approval (Tierney, 2004). This lends credence to the idea that employees value their coworkers' support highly and that this has an immediate effect on how they see their own creative roles within the company. Employees' intrinsic motivation for creative work may be increased by many forms of social and emotional support inside a business (Hirst & Knippenberg, 2009; Wang, 2010). This suggests that an organization's positive views toward creativity, as well as the particular supporting actions of superiors and colleagues, transmit crucial situational support signals to employees, which in turn enable them to establish a creative role identity.

Organizational and team dynamics have been studied for their impact on creative behavior in the construction industry. The innovation atmosphere "reflected the individuals' cognition for the sense-making of the working environment," according to the research of Zhang and Darko (2018), who looked into the correlation between leadership and creativity in building projects. They contended that workers' attitudes about their physical and mental working conditions would affect their motivation and actions in the area of innovation. The aspects of resource availability and support for innovation have been used by Park et al. (2004) in their study of the effect of construction project managers' actions on innovation. They contended that each member's unique perspective on the dynamics of the team is what makes the atmosphere for innovation a "cognitive interpretation of an organizational situation."

There is a wealth of research showing how various leadership styles affect the social context and psychological environment, and hence the level of creativity and innovativeness in a team (George, 2007). Amabile, Moneta, & Kramer (2004), Somech (2006), and Wang (2010) all point to leadership style and leadership behavior as factors that encourage creative problem solving within a collaborative setting. Leadership endorsement of innovation may affect the enabling variables (strategy, environment, systems and structures, assessment, and incentives), as proposed by Villaluz and Hechenova (2019). Ethical leaders have open and honest conversations with their staff, showing a genuine interest in their feedback on how to improve not just ethical matters but also daily operations (Walumbwa &

Schaubroeck, 2009). Workers are encouraged to think for themselves and question how they might improve the company through their own creativity (Resick et al., 2006).

The leadership of a company has a significant impact on its culture. Trust, honesty, and openness are just a few of the qualities that ethical leaders show they value through their behaviors and choices. Such measures foster an environment where workers feel safe enough to question established norms and provide new perspectives on how to solve problems (Aloustani et al., 2020). Because of this, all levels of the company become more open to new ideas, which fosters a vibrant innovation atmosphere (Neubert et al., 2008). As a result, the following hypothesis was postulated:

H3: There is a positive relationship between ethical leadership and an organization's overall innovation climate.

The Effect of Environmental Innovation on Environmental Performance

Ziegler and Nogareda (2009) describe EI as “a subset of technical innovation consisting of novel products and processes that can be used to prevent or mitigate an environmental impact. To minimize environmental hazards, pollution, and other adverse effects of resource usage compared to applicable alternatives, innovation in product, manufacturing process, service, management, or business technique is required (Antonioli et al., 2013).

Organizational efforts that go above and beyond just complying with minimum standards for protecting the environment are the primary goal of EP (Colwell, 2013; Arshad & Ismail, 2021). The term “environmental compliance” refers to “the degree to which an organization’s operations, products, and resource use comply with existing environmental laws” (Craig & Hansen, 2011). Previous studies have found that ecologically friendly procedures integrated into business operations and product development are directly correlated with improved EP (Dubey & Ali, 2015; Siriattakul & Wattanapongphasuk, 2019; Singh & Graziano, 2020).

Improved EP is a direct result of the connection between EI and a company's environmental management plan (Chen et al., 2015). Furthermore, green product and process innovation reduces waste and costs, which boosts an organization's economic and social performance (Semana & Mardani, 2019). Researchers and industry experts have largely agreed that resource waste and environmental degradation are inextricably related (Aldieri & Vinci, 2020; Iqbal, 2021; Liao, 2020). Previous studies have shown that organizations should view EI as proactive measures taken to enhance EP instead of a reactive response to stakeholder demands (Sawarjuwono & Dianawati, 2019; Elkington & Herman, 2018; Chen et al., 2019). Since EI seeks to develop present abilities to decrease the firm's adverse impact on the environment and boost its short-term sustainability (Hall & Clark, 2003), it may improve resource consumption in business operations (Hart, 1995). To reduce environmental pollution, environmental innovators work to improve the quality and usefulness of already existing products (Martinez-Conesa & Palacios-Manzano, 2017). EI modifies product design processes to reduce the environmental impact of a product throughout its lifecycle.

The construction sector throughout the world relies heavily on cutting-edge technological advances. Adopting and putting into practice such technologies is crucial as the construction sector attempts to reduce its historically large impact on the environment. EI is directly related to improved EP; therefore, implementing such ideas into everyday operations allows businesses to significantly improve their environmental results. As a result, the following hypothesis was postulated:

H4: Environmental innovation has a positive and significant impact on environmental performance.

The Effect of Innovation Climate on Environmental Performance

The culture of a company may either boost performance or stifle it. Additionally, a supportive and inclusive work environment improves performance (Brown & Leigh, 1996). Similarly, Harter, Schmidt, and Heyes (2002) found from a meta-analysis of over 7,000 business units in 36 firms that cultivating an atmosphere that encourages and rewards employee creativity may greatly improve a company's chances of success.

According to Henriques & Sadosky (1999), it is generally agreed that a company may claim environmental commitment only if it devotes all of its available resources to environmental protection. Businesses are expected to put in effort for the planet by coming up with ecologically friendly methods of manufacturing and business operations (Figge & Hahn, 2012), rather than just looking out for their own bottom line. Cultural factors, industrial traits, and consumer willingness to pay for environmentally friendly goods and services all influence the net margins connected with environmental operations (Schaltegger & Synnestvedt, 2002).

Chen (2011) emphasized the need for cultivating a company culture that values and encourages environmental protection and awareness. According to Anderson & Bateman (2000), a higher degree of environmental commitment in an organization increases the likelihood that it will engage in actions that benefit the environment. According to Schaltegger and Synnestvedt (2002), businesses may maximize their positive impact on the environment by adopting policies and procedures that do not put them in the red financially. In addition, if a corporation has made environmental protection a central part of its mission, it will be difficult to disregard the effects of its actions on the environment (Sharma et al., 1999). Keeping procedures and processes under control and providing answers to concerns about how much and to what degree processes are impacting the environment require firms to comply with the requirements of regulatory and legislative authorities (Hutchinson, 1992).

When workers at all levels are motivated to think creatively and take initiative, they are more likely to take actions that improve EP (Deng et al., 2022). When workers believe their ideas will be implemented, they are more likely to be inventive (DiLiello & Houghton, 2006). Moreover, if businesses are successful in creating a favorable organizational atmosphere, employees will be more inspired to work hard and will be more invested in the company's success. To foster innovation, a culture must not just tolerate but actively promote novel approaches to traditional issues. When these creative efforts are applied to environmental issues, ground-breaking solutions may be developed that greatly improve the EP of the firm as a whole.

This further illustrates the need for everyone involved in the project to pitch in to foster an innovative environment that emerges from the interplay of the many moving parts. According to Panuwatwanich and Mohamed (2008), building projects' innovativeness arises from the interplay between people and systems. For example, Kozlowski and Doherty (1989) argued that the atmosphere of a building project might be the result of social and psychological processes. Hence, the following hypothesis was proposed:

H5: Innovation climate has a positive and significant impact on environmental performance.

Mediating Role of Environmental Innovation

While EL may have a direct impact on more sustainable results, it also sets off a chain reaction that boosts EI. Ethical leaders lay the groundwork for more EI by creating a culture in which these issues are emphasized. Importantly, workers may learn from this kind of leadership by emulating its tenets, which include honesty, integrity, and fairness (Laajalahti, 2018) and are thus crucial predictors of innovation (Singh & Graziano, 2020). Leaders like this inspire their teams to go above and beyond in their jobs (Ullah & Jamil, 2021) and to think creatively (Iqbal, 2021).

Ethical leaders encourage their employees to think creatively and promote an environment of free dialogue and information exchange. Accordingly, this concept promotes a mentally sound workplace, which in turn encourages creativity (Iqbal, Nasim, & Khan, 2020). These developments subsequently function as concrete means by which the company puts its ethical attitude into practice, resulting in measurable gains in EP. As a result, EI helps enhance EP by minimizing the negative effects that companies have on the environment. As a result, the following hypothesis was postulated:

H6: Environmental innovation mediates the relationship between ethical leadership and environmental performance.

Mediating Role of Innovation Climate

The leadership style of a company has a significant impact on its overall IC, which may be crucial in mediating the connection between EL and EP. Through their moral actions, ethical leaders create an organization where employees may feel safe sharing their ideas and opinions openly. It's crucial for creativity to flourish in an atmosphere where workers feel respected, safe, and free to try new things. This creative atmosphere is the driving force behind the implementation of the ethical leadership's plan for ecological sustainability. To improve its EP, a company that prioritizes innovation may create new green technology, sustainable manufacturing processes, or waste-minimization procedures.

Hameed et al.'s (2023) research supports this mediation theory by showing that innovative organizations with good EL improve their EP in a roundabout way. This ground-breaking finding highlights how, although EL may sow the seed of environmental awareness, it is the innovation atmosphere that helps this seed grow and bear fruit in the form of improved EP.

Ethical leaders foster an innovative culture by fostering a shared set of core principles and a focus on the long term. In turn, this atmosphere fosters the development of strategies for addressing environmental concerns, closing the gap between EL and actual gains in this area. Hence, the following hypothesis was proposed:

H7: Innovation climate mediates the relationship between ethical leadership and environmental performance.

Conceptual Model

Based on the above-mentioned derivation and discussion of the hypothetical relationship, this study aimed to analyze the relationship between EL and EP. At the same time, to test whether there was a significant mediating effect, this study tried to introduce two variables, IC and EI, as the mediating variables. Therefore, this study constructed the following (see Figure 1) conceptual model.

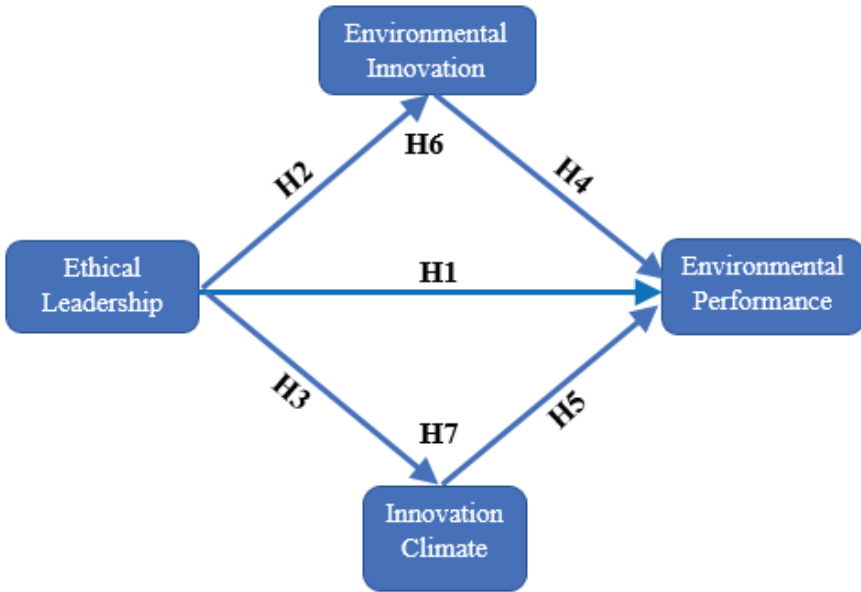


Figure 1: Hypothesized Conceptual Model

METHODOLOGY

Study Population and Sample

The data was collected from the construction companies in Kuwait. According to the Kuwaiti Public Authority for Civil Information (PACI) 2018, the number of construction workers in Kuwait was 439,422 individuals (Soliman et al., 2023). This targeted population was compiled from a business directory listing for Kuwait (Kuwait listing, 2021), where construction firms were randomly selected from the ‘builders’ category. The selected companies were contacted about participating in the survey and a positive response was obtained from eleven companies who were interested in participating in the study.

Material and Methods

This research was quantitative, and an adopted questionnaire was designed to collect the primary data from the staff of construction firms

in Kuwait by using a non-probability convenience sampling technique. The convenience sampling was used because it helps collect sample from respondents who are within reach and easily accessible. In addition, it is also considered that this method can help researchers collect a large amount of data in a short period. Quantitative research has been shown to be more accurate in assessing the relationship between variables (Creswell et al., 2003), and the applied deductive method also evaluates the hypotheses (Bryman, 2007).

In terms of information gathering, the cross-sectional research design was chosen in order to assess specific variables at a single time point. The original questionnaire was written in English, and a translation into Arabic was provided for anyone who would like to fill it out in that language. Both versions of the questionnaire were pilot tested on five people to ensure clarity. The responses and suggestions were used to refine the questionnaire. The researcher was also able to predict how long it would take participants to finish the questionnaire thanks to this round of testing. After being translated, compared, and pilot tested, the questionnaire was ready to be sent out to the study's participants.

Variable Measurement

This study used existing scales, which were reliable and verified by different researchers. All items were scored on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). EL was measured using the 10-item Ethical Leadership Scale (ELS) designed by Brown et al. (2005). The measurement of EI was based on the Organizational Innovation Scale (OIS) developed by Li et al. (2008). The measurement of IC was adopted from the Innovation Climate Scale (ICS) developed by Scott & Bruce (1994). The scale includes 22 items that captured employees' perceptions of the organizational climate for innovation, such as support for new ideas, risk-taking, and rewards for innovation. The measurement of EP was based on an established 4-item scale developed by Wagner & Schaltegger (2004).

RESULTS

A total number of 230 questionnaires were distributed to the respondents. After one month, 184 questionnaires were received, of which 18 were found incomplete and excluded from the final sample, leaving 166 complete questionnaires for analysis. The SPSS and AMOS software were used for data analysis.

Descriptive Analysis

To analyze the descriptive characteristics, the respondents' age, qualification, designation, and experience were discussed, which is presented in Table 1.

Table 1: Demographic Data of the Respondents

Particulars	Description	Number of Respondents	Percentage of Respondents
Gender	Male	143	86
	Female	23	14
	Below 20	15	9
	20 - 30	55	33.1
	30 – 40	61	36.7
	40 and over	35	21.1
Education	Certificate/Diploma	65	39.2
	Bachelor's degree	60	36.1
	Master's degree	35	21.1
	PhD/Doctorate	7	4.2
Job designation	Project manager	13	7.8
	Project engineer	27	16.3
	Site supervisor	35	21.1
	Worker	85	51.2
	Other	37	22.3
Job duration	1-5 years	22	13.3
	5-10 years	50	30.1
	10-20 years	22	33.7
	More than 20 years	50	22.9

The demographic characteristics, displayed in Table 4.1, show 143 males (86%) and 23 females (14%). This means that the survey sample was male dominated which is to be expected in the construction industry. In terms of age, respondents below 20 were 15 (9%), there were 55 respondents

(33.1%) in the 20-30 age group, 61 respondents (36.7%) were in the 30-40 age group, and 35 respondents (21.1) were above 40. Furthermore, 65 respondents (39.2%) had a certificate/diploma, 60 respondents (36.1%) hold a bachelor’s degree, 35 respondents (21.1%) have a master’s degree, and 7 respondents hold a PhD/Doctorate degree. In terms of the job designation, 13 of the respondents (7.8%) were project managers, 27 respondents (16.3%) were project engineers, 35 (21.1%) were site supervisors, 85 (51.2%) were workers, and 37 (22.3%) of the respondents were “other” employees in the construction firms.

Reliability Analysis

A reliability analysis of the measurement model is a recommended step before determining the structural analysis of the model (Anderson & Gerbing, 1988). To assess the unidimensionality of the measurement scales for each construct and verify the measurement model, an initial confirmatory factor analysis was conducted. Corresponding to the suggestions of Hair et al. (2009), the acceptable values of factor loading for the remaining items of each construct should fall in the range of 0.5 to 1. The internal consistency of each construct was evaluated using Cronbach’s alpha in this research. Cronbach’s alpha is a statistical measure of the reliability of a metric by examining how well its findings hold up when repeated using the same procedures (Taber, 2018). Table 2 displays the findings of the factor analysis. Overall, the values of factor loadings on items were greater than 0.5. Also, all Cronbach’s alpha coefficients were found to be greater than 0.7, indicating a satisfactory degree of dependability (Alghazi et al., 2021). All the average variance extracted (AVE) and the composite reliability (CR) of the variables were also found to be greater than 0.60 (Fornell & Larcker, 1981). Hence, reliability assumptions were fulfilled.

Table 2: Factor Analysis of Measurement Items

Variables	Items	Factor loading	Cronbach’s alpha	CR	AVE
Ethical Leadership	EL 1	0.884	0.809	0.832	0.620
	EL 2	0.832			
	EL 3	0.846			
	EL 4	0.776			
	EL 5	0.642			
	EL 6	0.793			

THE IMPACT OF ETHICAL LEADERSHIP ON ENVIRONMENTAL

	EL 7	0.737			
	EL 8	0.535			
	EL 9	0.898			
	EL 10	0.695			
Environmental Innovation	EI 1	0.887	0.840	0.878	0.662
	EI 2	0.609			
	EI 3	0.726			
	EI 4	0.814			
	EI 5	0.708			
Innovation Climate	IC 1	0.802	0.912	0.886	0.688
	IC 2	0.621			
	IC 3	0.813			
	IC 4	0.664			
	IC 5	0.735			
	IC 6	0.752			
	IC 7	0.786			
	IC 8	0.639			
	IC 9	0.726			
	IC 10	0.857			
	IC 11	0.803			
	IC 12	0.658			
	IC 13	0.829			
	IC 14	0.730			
	IC 15	0.780			
	IC 16	0.654			
	IC 17	0.755			
	IC 18	0.955			
	IC 19	0.588			
	IC 20	0.793			
	IC 21	0.813			
	IC 22	0.718			
Environmental Performance	EP 1	0.806	0.824	0.789	0.651
	EP 2	0.688			
	EP 3	0.850			
	EP 4	0.770			

Correlation and Validation

Table 3 displays the mean, standard deviation, and correlations between EL, EI, IC, and EP. Using the criteria established by Fornell and Larcker (1981), this research also evaluated the discriminant validity of the AVE values. According to discriminant validity (Hair et al., 2013), all of

the concept items were distinct. According to Fornell and Larcker (1981), discriminant validity may be considered adequate if the values calculated from the square root of AVE are larger than all of its other co-relative values. The AVE square root values (in brackets in Table 3) were 0.787, 0.814, 0.829, and 0.807. These values were greater than the maximum value of the absolute correlation coefficient between factors, respectively, indicating that the discriminant validity of this study was good.

Table 3: Means, Standard Deviations, and Correlations

	Mean	SD	EL	EI	IC	EP
Ethical Leadership	3.922	0.518	(0.787)			
Environmental Innovation	3.202	0.672	0.584 **	(0.814)		
Innovation Climate	3.446	0.612	0.618 **	0.514 **	(0.829)	
Environmental Performance	3.265	0.714	0.546 **	0.593 **	0.602 **	(0.807)

Notes: (1) diagonal elements are the square roots of AVE; (2) **: $p < 0.01$.

Hypotheses Testing

The authors used the AMOS software package first to construct the structural equation model (SEM) to test the formulated hypotheses. The structural model examines the relationships between EL, EP, EI, and IC. The model also assesses the mediating effects of EI and IC on the relationship between EL and EP.

Table 4 shows that the fit indices (Lei et al., 2021) used in measuring the fitting degree of the structural model of the model were satisfactory.

Table 4: Model Fit Indices of Structural Model

Fit index	Scores	Recommended value
χ^2/df	2.82	≤ 2 a; ≤ 5 b
GFI	0.932	≥ 0.90 a; ≥ 0.80 b
RMSEA	0.044	≤ 0.08 a; ≤ 0.10 b
NFI	0.969	≥ 0.90 a
AGFI	0.932	≥ 0.90 a; ≥ 0.80 b
CFI	0.988	≥ 0.90 a;

Note: a = acceptable range; b = marginal range.

The p-value is an important indicator of hypothesis testing. A p-value that is less than 0.05 is considered statistically significant while a figure that is less than 0.01 is viewed as highly statistically significant (CFI, 2020). A summary of the results from the path analysis is presented in Table 5.

Table 5: Path Analysis Results for the Hypothesis Test

Path	Hypothesis	Estimate	Standard Error (SE)	Critical Ratio (CR)	p	Decision
EL EP	H1	0.342	0.132	0.713	***	Supported
EL EI	H2	0.251	0.096	6.092	***	Supported
EL IC	H3	0.193	0.080	8.537	***	Supported
EI EP	H4	0.287	0.073	3.088	***	Supported
IC EP	H5	0.182	0.095	4.398	***	Supported

Note *** $p < 0.001$

Hypothesis 1 stated that EP is positively and significantly affected by EL. The results of the SEM analysis revealed a significant positive relationship between EL and EP ($\beta = 0.342$, $p < 0.001$), providing support for Hypothesis 1. This positive relationship found between EL and EP provided support for the social learning theory. Leaders' ethical behaviors influence followers to also act ethically through observational learning and internalization of norms (Ahmed & Khan, 2023). The results suggested that ethical leaders in the construction industry in Kuwait who prioritize sustainability set an example that enhances employees' environmental citizenship behaviors and drives better EP outcomes. This finding is consistent with several prior studies that also found EL to positively impact EP in different industry and cultural contexts (Ahmed & Khan, 2023; Hameed et al., 2023; Khan et al., 2019). This result can also be explained by certain cultural characteristics in Kuwait that accentuate the influence of leadership. Kuwaiti culture has high power distance and collectivism, so employees tend to respect authoritative figures and conform to social norms more than individualistic cultures (Taqi, 2020). Therefore, the ethical guidance and role modeling of leaders could have an even stronger effect on followers' environmental conduct in this setting. Additionally, the government has placed increasing emphasis on sustainability in recent years (Alsanad, 2015; Ottesen et al., 2023), augmenting the influence of leaders emphasizing similar priorities.

Hypothesis 2 proposed a positive relationship between EL and an organization's EI. The SEM analysis showed a significant positive relationship between EL and EI ($\beta = 0.251$, $p < 0.001$), thus supporting Hypothesis 2. This positive relationship found between EL and EI is aligned with the social exchange theory. This theory posits that when leaders create an ethical work environment through support and fairness, employees

will reciprocate through extra-role behaviors like suggesting new green ideas (Aboramadan et al., 2022). This finding echoes prior research that also found EL to stimulate innovation. Numerous studies have shown that ethical leaders, by promoting trust, openness, and a commitment to values, contribute to a conducive environment for innovative thinking and practices (Şengüllendi et al., 2023; Yang & Liu, 2022). As shown earlier, high power distance means employees look to leaders for guidance more than individualistic cultures (Taqi, 2020). Cultural values, regulatory frameworks, and industry-specific dynamics in Kuwait may also impact how EL practices translate into EI. For instance, the emphasis on sustainability and innovation in the construction sector in Kuwait could be influenced by regional environmental challenges and government initiatives. Additionally, the oil-dependent economy has historically discouraged disruptive new technologies (Shehabi, 2023). However, the government is now promoting a more innovative and sustainable private sector (UNDP, 2022). As ethical leaders increasingly prioritize EI, it may become a more established and rewarded behavior over time as norms adjust to this shift.

Hypothesis 3 hypothesized a positive relationship between EL and an organization's IC. The SEM analysis demonstrated a significant positive relationship between EL and IC ($\beta = 0.193$, $p < 0.001$), supporting Hypothesis 3. This positive relationship found between EL and IC aligns with leader-member exchange theory. This theory suggests that ethical leaders who treat followers fairly and provide support and resources will foster high-quality exchanges (Babič, 2014). Employees then perceive their workplace more favorably in terms of innovation support. This finding is consistent with prior studies that also linked EL to IC (Tran Pham & Nguyen Le, 2023). The contextual implication of this for Kuwait is similar to what has been explained for the results for Hypothesis 1 and Hypothesis 2. Employees' relationship with their leaders, who prioritize innovation, and increasing government promotion for innovation through initiatives like Vision 2035 (UNDP, 2022), make employees feel more psychologically safe proposing new ideas.

Hypothesis 4 suggested that EI has a positive and significant impact on EP. The SEM analysis indicated a significant positive relationship between EI and EP ($\beta = 0.287$, $p < 0.001$), confirming Hypothesis 4. This positive relationship found between EI and EP aligns with the natural resource-based

view theory that posits that developing innovative green technologies, processes, and solutions provides firms with a competitive advantage by improving environmental efficiency and reducing costs of compliance over time (Yunus & Michalisin, 2016). This finding is consistent with prior studies that also showed EI leading to better EP (Liao & Zhang, 2020). Rehman et al. (2021) reported an effect size of 0.277 for the relationship between green innovation and EP, similar to the coefficient found in this study ($\beta = 0.182$). However, an aspect of the Kuwait setting that may amplify this effect compared to other locations is the country's strong policy emphasis on transitioning to a green economy (Alsanad, 2015; Ottesen et al., 2023). This regulatory driver encourages the development and adoption of new environmental innovations that directly enhance EP.

Hypothesis 5 proposed a positive relationship between IC and EP. The SEM analysis showed a significant positive relationship between IC and EP ($\beta = 0.182$, $p < 0.001$), providing support for Hypothesis 5. The positive relationship found between IC and EP aligns with the social exchange theory, just like in hypothesis 2. In this case, if employees perceive their workplace as supportive of new ideas through a positive IC, they will reciprocate through extra efforts that enhance organizational goals like improved EP. This finding is consistent with prior research demonstrating the positive impact of IC on EP (Crosley, 2014). Kuwait's collectivist culture, as a reflection of a broader Arab culture (Daly et al., 2014), means employees have a strong motivation to contribute to organizational success for the benefit of their in-group. A supportive IC may thus elicit even greater effort toward better EP goals as a way to uphold social obligations. The collectivist culture in Kuwait may amplify employees' reciprocity responses to an innovative climate through extra efforts to improve EP, compared to more individualistic settings.

Mediation Analysis

Mediation analysis was conducted to examine the mediating effects of EI and IC on the relationship between the independent variable (ethical leadership) and the dependent variable (environmental performance). Our investigation into the mediating function followed the protocol laid forth by Baron and Kenny (1986). The following assumptions must be true if Hypothesis 6 was to be accepted: The first need was that there be statistical

significance between EL and EI and between EI and EP. The second thing to do was measure how EL affected the state of the environment. If there was statistical significance, then the next step will be to analyze how EL influenced EP by factoring in EI. A mediating influence exists if and only if the calculated coefficient is substantial. In determining the type of mediation, if both direct and indirect effects were significant, mediation is considered partial. On the other hand, if only the direct effect was significant or both effects were insignificant, then there was no mediation. Finally, if only the indirect effect was significant, it is called full mediation (Dash & Paul, 2021). The same method was used to test the mediating role of the IC (hypothesis 7).

Hypothesis 6 suggested that EI mediates the relationship between EL and EP. The results of the mediation analysis (Table 6) revealed that EL had a significant impact on EI and EP. EI had a significant indirect effect on EP. These results meant that EI played a partial mediating role between EL and EP, thus supporting Hypothesis 6. Hypothesis 7 proposed that IC mediates the relationship between EL and EP. The mediation analysis results (Table 7) showed a significant indirect effect of EL on EP through IC (partial mediating role), providing support for Hypothesis 7. The mediation results followed the direct relationships covered in Hypothesis 1 to Hypothesis 5. As shown in these results, high power distance, collectivism, and government initiatives promoting sustainability reinforce the climate emphasized by ethical leaders in the Kuwaiti context.

Table 6: Mediating Effect of Environmental Innovation

Path	Coefficient	SE	t-value	p	Decision
EL EI	0.1524	0.0543	2.4294	***	Partial mediation
EL EP	0.0645	0.0578	0.9284	*	
EL EI EP	0.3292	0.0639	5.4294	***	
EL EP	0.3390	0.0562	5.8231	***	

Note * p < 0.05; *** p < 0.001.

Table 7: Mediating Effect of Innovation Climate

Path	Coefficient	SE	t-value	p	Decision
EL IC	0.1547	0.0535	1.5732	***	Partial mediation
IC EP	0.1293	0.0532	4.9622	***	
EL IC EP	0.3190	0.0597	5.3786	***	
EL EP	0.3390	0.0562	5.8231	***	

Note * p < 0.05; *** p < 0.001.

DISCUSSION

The findings of this study highlight the impact of EL on EP and the role of EI and IC as mediators in this relationship, in the construction industry. Confirming Hypothesis 1, the findings showed that EL improved EP. Organizations that place a premium on EL practices are more likely to achieve positive results in EP. This confirms the findings of previous studies (Ren et al., 2020; Xuecheng & Iqbal, 2022) that show the importance of EL in shaping sustainable organizational practices and results. Ethical leaders create a culture that values environmental sustainability by creating high ethical standards, supporting openness, and displaying integrity. Because of the normative atmosphere they've created, workers are more likely to participate in ecologically friendly activities like recycling, conserving energy, and preventing pollution. As a result, firms with EL have a lower impact on the environment.

Furthermore, the results showed that EL influences both EI and the IC favorably (supporting Hypotheses 2 and 3). This suggests that ethical leaders create a culture in their organizations that encourages and rewards EI, which in turn improves EP. This is consistent with results from previous studies. Yang & Liu (2022) found EL positively affects employees' green innovative behavior. Also, Crosley (2014) explored the possible relationship between EL and IC and found significant positive correlations between the two. In addition, this study's results also show that EI and IC both favourably influence EP (supporting Hypothesis 4 and 5). Previous studies such as Liao & Zhang (2020) found that EI had a positive effect on a firm's EP. This is also supported by the results of a previous study conducted by Liao et al. (2021) which found that EI can positively promote both firms' financial performance and EP.

The results also showed that EI and IC had mediating roles. EI served as a mediator between EL and EP (supporting Hypothesis 6). This finding accords with the findings of previous studies that have highlighted the role of innovation in fostering sustainable outcomes (Horbach, 2008; Grekova et al., 2013). Ethical leaders create an atmosphere conducive to innovation by praising and rewarding originality, risk-taking, and open dialogue. Staff members are inspired to create novel eco-friendly ideas and practices in this supportive setting. The construction sector has improved its EP, thanks to the use of green technology, sustainable materials, and energy-efficient processes. As a result, EL has an indirect impact on EP since it encourages creativity, which in turn encourages the adoption of novel methods.

Finally, the results from this study showed that a supportive environment for innovation mediates the relationship between EL and EP in part (corroborating Hypothesis 7). Results are similar to earlier research (Zhang & Darko, 2018; Xuecheng & Iqbal, 2022), which show that IC can mediate the relationship between EL and EP in the construction industry. Organizations should create a culture of innovation by putting in place the structures, procedures, and systems that encourage it. Some ways to accomplish this goal include allocating funds for research and development, promoting interdepartmental cooperation, fostering an environment that values education, and rewarding creative efforts. Organizations may boost the effect of EL on reaching sustainability objectives by encouraging a culture of creativity.

CONCLUSION

The primary purpose of the current study was to find a meaningful relationship between EL and the EP of employees in the construction industry. The impact of EI and the IC in the sector as mediators in this direct relationship was also considered. The findings revealed that all the hypotheses were positive and significant, which showed the relationship between variables. The results highlight the value of EL practices, the encouragement of EI, and the promotion of a healthy innovation atmosphere in the workplaces of the construction industry. Organizations may develop a culture of environmental sustainability and inspire workers to come up with innovative solutions to environmental concerns if they practice EL.

The future of Kuwait's construction industry hinges on its ability to ethically navigate its growth trajectory. With the industry poised to play a significant role in the nation's diversification efforts, ethical leaders will be the torchbearers, guiding the sector towards responsible and sustainable growth.

Several theoretical directions may be taken from these results. The first thing this research did was bridge the gap between the domains of EL and environmental sustainability, adding to the existing body of literature. It stressed the need to consider ethical factors in the context of EP by emphasizing the role of EL in pushing environmentally responsible activities. The elements that affect sustainable behavior in companies may be better understood with the help of this unified perspective.

Second, by showing how EI and IC served as intermediaries between EL and EP, the research broadened our grasp of those systems. This study elucidated the mechanisms through which EL may lead to better environmental results, specifically how EL practices can have a knock-on effect on EP by encouraging creativity and positivity in the workplace.

Finally, the results highlighted the complementary relationships between EL and innovation in enhancing EP. According to the findings, EL practices not only encouraged moral action but also help to build an innovative spirit that backs up efforts to improve environmental sustainability. To have the greatest possible effect on EP, it is crucial that EL practices and innovative tactics be aligned.

The findings of this study have several practical implications for construction practitioners and policymakers. To begin, companies in the construction sector should invest heavily in training their managers and supervisors in EL practices. Leaders may encourage sustainable practices within their teams and cultivate a culture of ethics by providing training and assistance in areas such as ethical decision-making and environmental stewardship.

Second, construction companies should foster a culture that recognizes and promotes eco-friendly creativity. Implementing innovation initiatives, allocating funds for research and development, and encouraging staff to

pitch in with novel solutions to environmental problems are all ways to get there. Creating an atmosphere conducive to innovation is also important for improving sustainability. Business leaders need to foster an atmosphere where workers feel safe enough to work together, speak their minds, and think outside the box to find solutions to environmental problems.

Last but not least, construction companies can't create environmentally friendly processes without active stakeholder participation. EL may serve as a compass for these exchanges and make it easier to factor in stakeholder input when making decisions.

The present study contributes many valuable additions to the existing literature. The research has made important contributions, but there is a need to also talk about its shortcomings. To begin, the research may not be representative of the Kuwaiti construction sector as a whole due to its small sample size. Second, the cross-sectional nature of the research makes it difficult to draw any firm conclusions about cause and effect. The connections and the causal conclusions might be strengthened by doing longitudinal studies that follow the variables through time. Finally, self-reported data was used, which is a potential source of common method bias. It's likely that they gave the wrong response because they misunderstood the subject being tested.

While this research fills a gap in the literature, there are still numerous unexplored avenues that might be explored in future research. Sample sizes in similar research should be increased to test the generalizability of the results to other sectors and countries. Managers, policymakers, and other stakeholders can gain insight into which variables need to be prioritized in order to achieve business and environmental sustainability by using additional variables, such as culture and employee commitment, to gain a more nuanced understanding of their respective organizational impacts. Lastly, moderating variables can be introduced to understand how changes in the independent variable affect any or all of the dependent variables.

REFERENCES

- Aboramadan, M., Hamid, Z., Kundi, Y. M., & El Hamalawi, E. (2022). The effect of servant leadership on employees' extra-role behaviors in NPOs: The role of work engagement. *Non-profit Management and Leadership*, 33(1), 109–129.
- Afsar, B., Maqsoom, A., Shahjehan, A., Afridi, S.A., Nawaz, A., & Fazliani, H. (2020). Responsible leadership and employee's pro-environmental behavior: the role of organizational commitment, green shared vision, and internal environmental locus of control. *Corporate. Social Responsible Environmental Management*, 27(1), 297–312.
- Aftab, J., Abid, N., Sarwar, H., & Veneziani, M. (2022). Environmental ethics, green innovation, and sustainable performance: Exploring the role of environmental leadership and environmental strategy. *Journal of Cleaner Production*, 378, 1-15.
- Agbor, E. (2008). Creativity and Innovation: The Leadership Dynamics. *Journal of Strategic Leadership*, 1(1), 1-7.
- Ahmad, S., Islam, T., Sadiq, M., & Kaleem, A. (2021). Promoting green behavior through ethical leadership: a model of green human resource management and environmental knowledge. *Leadership & Organization Development Journal*, 42(4), 531–547.
- Ahmed, M., & Khan, M. I. (2023). Beyond the universal perception: Unveiling the paradoxical impact of ethical leadership on employees' unethical pro-organizational behavior. *Heliyon*, 9(11), e21618.
- Akhmetshin, E.M., Kulibanova, V.V., Ilyina, I., & Teor, T.R. (2020). *Innovative internal communications tools and their role in fostering ethical organization behavior*. In Paper Presented at the 2020 IEEE Communication Strategies in Digital Society Seminar (ComSDS). St. Petersburg. <https://doi.org/10.1109/ComSDS49898.2020.9101245>
- Al-Raqeb, H., Ghaffar, S. H., Al-Kheetan, M. J., & Chougan, M. (2023). Understanding the challenges of construction demolition waste

- management towards circular construction: Kuwait Stakeholder's perspective. *Cleaner Waste Systems*, 4, 100075.
- Alazmi, T. (2016). Leadership in context: An examination of contextual dimensions and leadership behaviour in Kuwaiti private sector. *International Journal of Islamic and Middle Eastern Finance and Management*, 9(4), 474–491.
- Aldieri, L., Kotsemir, M., & Vinci, C.P. (2020). The role of environmental innovation through the technological proximity in the implementation of the sustainable development. *Business Strategy and the Environment*, 29(2), 493–502.
- Alghazi, S., Kamsin, A., & Almaayah, M. (2021). For sustainable application of mobile learning: an extended UTAUT model to examine the effect of technical factors on the usage of mobile devices as a learning tool. *Sustainability*, 13(4), 1856.
- Aloustani, S., Atashzadeh-Shoorideh, F., Zagheri-Tafreshi, M., Nasiri, M., Barkhordari-Sharifabad, M., & Skerrett, V. (2020). Association between ethical leadership, ethical climate and organizational citizenship behavior from nurses' perspective: A descriptive correlational study. *BMC Nursing*, 19(1), 1–8.
- Alsanad, S. (2015). Awareness, Drivers, Actions, and Barriers of Sustainable Construction in Kuwait. *Procedia Engineering*, 118(7), 969–983.
- Amabile, T.M., Schatzel, E.A., Moneta, G.B., & Kramer, S.J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *The Leadership Quarterly*, 15(1), 5–32.
- Amabile, T.M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154–1184.
- Amabile, T.M. (1998). How to kill creativity. *Harvard Business Review*, 76, 77–87.

- Anderson, J., & Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423.
- Anderson, L.M., & Bateman, T.S. (2000). Individual environmental initiative: championing natural environmental issues in US business organizations. *Academy of Management Journal*, 43(4), 548–570.
- Antonioli, D., Mancinelli, S., & Mazzanti, M. (2013). Is environmental innovation embedded within high-performance organisational changes? The role of human resource management and complementarity in green business strategies. *Research Policy*, 42(4), 975–988.
- Armanda, D.T., Guinée J., & Tukker, A. (2019). The second green revolution: innovative urban agriculture’s contribution to food security and sustainability– A review. *Global Food Security*, 22, 13–24.
- Arundel, A., & Kemp, R (2009). *Measuring eco-innovation*. MERIT Working Papers 2009-017. United Nations University - Maastricht Economic and Social Research Institute on Innovation and Technology (MERIT).
- Babič, Š. (2014). *Ethical Leadership and Leader Member Exchange (LMX) Theory*. CRIS - Bulletin of the Centre for Research and Interdisciplinary Study, 2014. <https://doi.org/10.2478/cris-2014-0004>
- Bahzar, M. (2019). Effects of green transformational and ethical leadership on green creativity, eco-innovation and energy efficiency in higher education sector of Indonesia. *International Journal of Energy Economics and Policy*, 9(6), 408–414.
- Bandura, A. (1977). *Social Learning Theory*. Englewood cliffs Prentice Hall.
- Bandura, A. (1986). Social foundations of thought and action. In *Stogdill’s handbook of leadership*. Prentice–Hall.
- Baron, R.M., & Kenny, D. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and

- statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Bossink, B., & Brouwers, H.J.H. (1996). Construction waste: quantification and source evaluation. *Journal of Construction Engineering and Management*, 122(1), 56–60.
- Brown, M.E., & Mitchell, M. (2010). Ethical and Unethical Leadership: Exploring New Avenues for Future Research. *Business Ethics Quarterly*, 20(4), 583–616.
- Brown, M.E., Trevino, L.K., & Harrison, D.A. (2005). Ethical Leadership: A Social Learning Perspective for Construct Development and Testing. *Organizational Behaviour and Human Decision Processes*, 97(2), 117-134.
- Brown, S.T., & Leigh, T. (1996). A new look at psychological climate and its relationship to job involvement, effort and performance. *Journal of Applied Psychology*, 81(4), 358–368.
- Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research*, 1(1), 8–22.
- Carrillo-Hermosilla, J., González, P.R.D., & Könnölä, T. (2009). What is eco-innovation? In *Eco-innovation*. Palgrave Macmillan, London.
- Carrión-Flores, C.E., & Innes, R. (2010). Environmental innovation and environmental performance. *Journal of Environmental Economics and Management*, 59(1), 27–42.
- CFI. (2020). P-value. <https://corporatefinanceinstitute.com/resources/data-science/p-value/>
- Chen, Y., Guiyao, T., Jin, J, Li, J. & Paillé, P. (2015). Linking market orientation and environmental performance: the influence of environmental strategy, employee’s environmental involvement, and environmental product quality. *Journal of Business Ethics*, 127(2), 479–500.

- Chen, G., & Kanfer, R. (2006). Toward a systems theory of motivated behavior in work teams. *Research in Organizational Behavior*, 27, 223–267.
- Chen, A.S.Y., & Hou, Y-H. (2016). The effects of ethical leadership, voice behavior and climates for innovation on creativity: A moderated mediation examination. *The Leadership Quarterly*, 27(1), 1–13.
- Chen, Y.S. (2011). Green Organizational Identity: sources and consequences. *Management Decision*, 49(3), 384–404.
- Chiou, T-Y., Chan, H.K., Lettice, F., & Chung, S.H. (2011). The influence of greening the suppliers and green innovation on environmental performance and competitive advantage in Taiwan. *Transportation Research Part E: Logistics and Transportation Review*, 47(6), 822–836.
- Colwell, S., & Joshi, A.W. (2013). Corporate ecological responsiveness: antecedent effects of institutional pressure and top management commitment and their impact on organizational performance. *Business Strategy and the Environment*, 22(2), 73–91.
- Creswell, J.W., Clark, V.L., Gutmann, M.L., & Hanson, W.E. (2003). An expanded typology for classifying mixed methods research into designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Crosley, V. (2014). *Empirical Study on the Relationship between Ethical Leadership and Organizational Climate of Innovation*. [Doctor of Business Administration (DBA), George Fox University]. <https://digitalcommons.georgefox.edu/dbadmin/1>
- Daly, P. S., Owyar-Hosseini, M., & Alloughani, M. E. (2014). Antecedents of citizenship behavior in Arab employees in Kuwait. *International Journal of Cross Cultural Management*, 14(2), 239–260.
- Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, 173(3), 121092.

- Demirtas, O. (2015). Ethical leadership influence at organizations: Evidence from the field. *Journal of Business Ethics*, 126(2), 273–284.
- Den Hartog, D.N. (2015). Ethical leadership. *Annual Review of Organizational Psychology and Organizational Behavior*, 2(1), 409–434.
- Deng, H., Li, C., & Wang, L. (2022). The Impact of Corporate Innovation on Environmental Performance: The Moderating Effect of Financing Constraints and Government Subsidies. *Sustainability (Switzerland)*, 14(18), 11530.
- Dess, G.G., and Picken, J.C. (2000). Changing roles: Leadership in the 21st century. *Organizational Dynamics*, 29(4), 18–33.
- Dey, M., Bhattacharjee, S., Mahmood, M., Uddin, M.A., & Biswas, S.R. (2022). Ethical leadership for better sustainable performance: Role of employee values, behavior and ethical climate. *Journal of Cleaner Production*, 337(1), 130527.
- Dhar, R.L. (2016). Ethical leadership and its impact on service innovative behavior: The role of LMX and job autonomy. *Tourism Management*, 57(C), 139–148.
- DiLiello, T.C., & Houghton, J.D. (2006). Maximizing organizational leadership capacity for the future: Toward a model of self-leadership, innovation and creativity. *Journal of Managerial Psychology*, 21(4), 319–337.
- Doh, J.P., & Quigley, N. (2014). Responsible leadership and stakeholder management: Influence pathways and organizational outcomes. *Academy of Management Perspectives*, 28(3), 255–274.
- Dubey, R., Gunasekaran, A., & Ali, S.S. (2015). Exploring the relationship between leadership, operational practices, institutional pressures and environmental performance: A framework for the green supply chain. *International Journal of Production Economics*, 160(C), 120–132.

- Figge, F., & Hahn, T. (2012). Is green and profitable sustainable? Assessing the trade-off between economic and environmental aspects. *International Journal of Production Economics*, 140(1), 92–102.
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Gallardo-Vázquez, D., Valdez, L., & Castuera-Díaz, Á.M. (2019). Corporate social responsibility as an antecedent of innovation, reputation, performance, and competitive success: a multiple mediation analysis. *Sustainability*, 11(20), 5614.
- García-Machado, J., & Martínez-Ávila, M. (2019). Environmental Performance and Green Culture: The Mediating Effect of Green Innovation. An Application to the Automotive Industry. *Sustainability*, 11(18), 4874.
- George, J.M. (2007). Creativity in organizations. *The Academy of Management Annals*, 1(1), 439–477.
- Gini, A. (1998). Moral leadership and business ethics. In J. B. Ciulla (Ed.), *Ethics, the heart of leadership*. Quorum Books.
- Grekova, K., Bremmers, H. J., Trienekens, J. H., Kemp, R. G. M., & Omta, S. W. F. (2013). The mediating role of environmental innovation in the relationship between environmental management and firm performance in a multi-stakeholder environment. *Journal on Chain and Network Science*, 13(2), 119–137.
- Hair, J., Black, W. C., Babin, B. J., & Anderson, R. (2009). *Multivariate data analysis* (7th Ed.). Prentice Hall, Upper Saddle, NJ.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand. Sage.
- Hall, J., & Clark, W.W. (2003). Special issue: Environmental innovation. *Journal of Cleaner Production*, 11(4), 343–346.

Hameed, Z., Naeem, R. M., Misra, P., Chotia, V., & Malibari, A. (2023). Ethical leadership and environmental performance: The role of green IT capital, green technology innovation, and technological orientation. *Technological Forecasting and Social Change*, 194, 122739.

Hart, O. (1995). Corporate governance: Some theory and implications. *The Economic Journal*, 105(430), 678–689.

Harter, J.K., Schmidt, F.L., & Hayes, T.L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87(2), 268–279.

Hay, R. (2010). The relevance of ecocentrism, personal development and transformational leadership to sustainability and identity. *Sustainable Development*, 18(3), 163–171.

Henriques, I., & Sadorsky, P. (1999). The relationship between environmental commitment and managerial perceptions of stakeholder importance. *Academy of Management Journal*, 42(1), 87–99.

Hirst, G., van Dick, R., & van Knippenberg, D. (2009). A social identity perspective on leadership and employee creativity. *Journal of Organizational Behavior*, 30(7), 963–982.

Hoch, J.E. (2013). Shared leadership and innovation: the role of vertical leadership and employee integrity. *Journal of Business Psychology*, 28(2), 159–174.

Horbach, J. (2008). Determinants of environmental innovation—New evidence from German panel data sources. *Research Policy*, 37(1), 163–173.

Hu, X., & Casey, T. (2021). How and when organization identification promotes safety voice among healthcare professionals. *Journal of Advanced Nursing*, 77(9), 3733–3744.

Hutchinson, C. (1992). Corporate Strategy and the Environment. *Long Range Planning*, 25(4), 9–21.

- Ilyas, S., Abid, G., & Ashfaq, F. (2020). Ethical leadership in sustainable organizations: the moderating role of general self-efficacy and the mediating role of organizational trust. *Sustainable Production and Consumption*, 22(6), 195–204.
- Iqbal, Q., & Piwowar-Sulej, K. (2021). Sustainable leadership in higher education institutions: Social innovation as a mechanism. *International Journal of Sustainable Higher Education*, 23(8), 1–20.
- Iqbal, Q., Ahmad, N.H., & Abdul-Halim, H. (2020). How does sustainable leadership influence sustainable performance? Empirical evidence from selected ASEAN countries. *Sage Open*, 10(4), 1-16.
- Iqbal, Q., Ahmad, N.H., Nasim, A., & Khan, S.A.R. (2020). A moderated-mediation analysis of psychological empowerment: sustainable leadership and sustainable performance. *Journal of Cleaner Production*, 262(2), 121429.
- Iqbal, Q., & Ahmad, N.H. (2021). Sustainable development: The colors of sustainable leadership in learning organization. *Sustainable Development*, 29(1), 108–119.
- Iqbal, Z.A., Abid, G., Contreras, F., Hassan, Q., & Zafar, R. (2020). Ethical leadership and innovative work behavior: The mediating role of individual attributes. *Journal of Open Innovation Technology Market and Complexity*, 6(3), 68.
- Ismael, D., & Shealy, T. (2018). Sustainable construction risk perceptions in the Kuwaiti construction industry. *Sustainability (Switzerland)*, 10(6), 1854.
- Jackson, S.E., Ones, D.S., & Dilchert, S. (2012). *Managing Human Resources for Environmental Sustainability*. John Wiley & Sons.
- Kemp, R. (2010). Eco-Innovation: Definition, measurement and open research issues. *Economia Politica*, 27(3), 397–420.

- Khan, M.A.S., Du, J-G., Ali, M., Saleem, S., & Usman, M. (2019). Interrelationships between ethical leadership, green psychological climate, and organizational environmental citizenship behavior: the moderating role of gender. *Frontiers in Psychology*, 10, 1977.
- Kim, M-S., & Thapa, B. (2018). Relationship of Ethical Leadership, Corporate Social Responsibility and Organizational Performance. *Sustainability*, 10(2), 447.
- Kim, Y. J., Kim, W. G., Choi, H.-M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International Journal of Hospitality Management*, 76, 83–93.
- Kuwait listing. (2021). Kuwait listing business directory. <https://kuwaitlisting.com/directory-category/builders/>
- Korku, C., & Kaya, S. (2023). Relationship between Authentic Leadership, Transformational Leadership and Innovative Work Behaviour: Mediating Role of Innovation Climate. *International Journal of Occupational Safety and Ergonomics: JOSE*, 29(3), 1128–1134.
- Kozlowski, S.W.J., & Doherty, M.L. (1989). Integration of climate and leadership: examination of a neglected issue. *Journal of Applied Psychology*, 74(4), 546–553.
- Laajalahti, A. (2018). Fostering creative interdisciplinary: Building bridges between ethical leadership and leaders' interpersonal communication competence. In *Public Relations and the Power of Creativity*. Emerald Publishing Limited.
- Lawton, L.J., & Weaver, D.B. (2010). Normative and innovative sustainable resource management at birding festivals. *Tourism Management*, 31(4), 527–536.
- Lee, S. H., & Ha-Brookshire, J.E. (2017). Ethical climate and job attitude in fashion retail employees' turnover intention, and perceived organizational sustainability performance: a cross-sectional study. *Sustainability*, 9(3), 465.

- Lei, H., Gui, L., & Le, P.B. (2021). Linking transformational leadership and frugal innovation: the mediating role of tacit and explicit knowledge sharing. *Journal of Knowledge Management*, 25(7), 1832–1852.
- Li, Y., Liu, Y., Li, M., & Wu, H. (2008). Transformational offshore outsourcing: Empirical evidence from alliances in China. *Journal of Operations Management*, 26(2), 257–274.
- Liao, Z., & Zhang, M. (2020). The influence of responsible leadership on environmental innovation and environmental performance: The moderating role of managerial discretion. *Corporate Social Responsibility and Environmental Management*, 27(5), 2016–2027.
- Liao, Z., Liu, P., & Liu, S. (2021). A meta-analysis of environmental innovation and firm performance. *Journal of Environmental Planning and Management*, 64(1), 1–35.
- Liden, R.C., Sparrowe, R.T., & Wayne, S. (1997). Leader-member exchange theory: The past and potential for the future. *Research in Personnel and Human Resources Management*, 15, 47–119.
- Liu, L., & Zhao, L. (2019). *The influence of ethical leadership and green organizational identity on employees' green innovation behavior: the moderating effect of strategic flexibility*. Paper Presented at the IOP Conference Series: Earth and Environmental Science.
- Maak, T., & Pless, N.M. (2006). Responsible leadership in a stakeholder society – A relational perspective. *Journal of Business Ethics*, 66(1), 99–115.
- Maak, T. (2007). Responsible leadership, stakeholder engagement, and the emergence of social capital. *Journal of Business Ethics*, 74(4), 329–343.
- Majali, T., Alkaraki, M., Asad, M., Aladwan, N., & Aledeinat, M. (2022). Green Transformational Leadership, Green Entrepreneurial Orientation and Performance of SMEs: The Mediating Role of Green Product Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4), 191.

- Martinez-Conesa, I., Soto-Acosta, P., & Palacios-Manzano, M. (2017). Corporate social responsibility and its effect on innovation and firm performance: An empirical research in SMEs. *Journal of Cleaner Production*, 142(4), 2374–2383.
- Metcalfe, L., & Benn, S. (2013). Leadership for Sustainability: An Evolution of Leadership Ability. *Journal of Business Ethics*, 112(3), 369–384.
- Mordor Intelligence. (2023). Kuwait Construction Market Size & Share Analysis - Growth Trends & Forecasts (2023 - 2028). <https://www.mordorintelligence.com/industry-reports/kuwait-construction-market>
- Morledge, R., & Jackson, F. (2001). Reducing environmental pollution caused by construction plant. *Environmental Management and Health*, 12(2), 191–206.
- Morris, M.H., Kuratko, D.F., & Covin, J.G. (2010). *Corporate entrepreneurship & innovation*. Thomson/Southwestern Publishers.
- MWR. (2023). Kuwait Construction Market Analysis-Industry Size, Share, Research Report, Insights, Covid-19 Impact, Statistics, Trends, Growth and Forecast 2023-2030. Mark Wide Research. <https://markwideresearch.com/kuwait-construction-market/>
- Neubert, M.J., Kacmar, K.M., Carlson, D.S., Chonko, L.B., & Roberts, J.A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, 93(6), 1220–1233.
- Ng, T.W. (2017). Transformational leadership and performance outcomes: Analyses of multiple mediation pathways. *The Leadership Quarterly*, 28(3), 385–417.
- Ogaga, I. A., Ezenwakwelu, C. A., Isichei, E. E., & Olabosinde, T. S. (2023). Ethical leadership and sustainability of agro-allied firms: moderating role of environmental dynamism. *International Journal of Ethics and Systems*, 39(1), 36–53.

- Ones, D.S., & Dilchert, S. (2012). Environmental Sustainability at Work: A Call to Action. *Industrial and Organizational Psychology*, 5(4), 444–466.
- Ottesen, A., Thom, D., Bhagat, R., & Mourdaa, R. (2023). Learning from the Future of Kuwait: Scenarios as a Learning Tool to Build Consensus for Actions Needed to Realize Vision 2035. *Sustainability*, 15(9), 7054.
- Panuwatwanich, K., Stewart, R.D. & Mohamed, S. (2008). The role of climate for innovation in enhancing business performance. *Engineering, Construction and Architectural Management*, 15(5), 407–422.
- Park, M., Nepal, M., & Dulaimi, M. (2004). Dynamic modeling for construction innovation. *Journal of Management in Engineering*, 20(4), 170–177.
- Pless, N.M. (2007). Understanding responsible leadership: Role identity and motivational drivers. *Journal of Business Ethics*, 74(4), 437–456.
- Qing, M., Asif, M., Hussain, A., & Jameel, A. (2020). Exploring the impact of ethical leadership on job satisfaction and organizational commitment in public sector organizations: The mediating role of psychological empowerment. *Review of Managerial Science*, 14(6), 1405–1432.
- Polster, B., Peuportier, B., Sommereux, I.D., Pedregal, P.D., Gobin, C., & Durand, E. (1996). Evaluation of the environmental quality of buildings towards a more environmentally conscious design. *Solar Energy*, 57(3), 219–230.
- Rehman, S. U., Kraus, S., Shah, S. A., Khanin, D., & Mahto, R. V. (2021). Analyzing the relationship between green innovation and environmental performance in large manufacturing firms. *Technological Forecasting and Social Change*, 163(2), 120481.
- Ren, S., Tang, G., & Jackson, S.E. (2020). Effects of Green HRM and CEO ethical leadership on organizations' environmental performance. *International Journal of Manpower*, 42(6), 961-983.

Rennings, K., Ziegler, A., Ankele, K., & Hoffmann, E. (2006). The influence of different characteristics of the EU environmental management and auditing scheme on technical environmental innovations and economic performance. *Ecological Economics*, 57(1), 45–59.

Resick, C.J., Hanges, P.J., Dickson, M.W., & Mitchelson, J.K. (2006). A cross-cultural examination of the endorsement of ethical leadership. *Journal of Business Ethics*, 63(4), 345–359.

Riley, A.L., & Burke, P.J. (1995). Identities and self-verification in the small group. *Social Psychology Quarterly*, 58(2), 61–73.

Saha, R., Shashi, Cerchione, R., Singh, R., & Dahiya, R. (2020). Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review. *Corporate Social Responsibility and Environmental Management*, 27(2), 409–429.

Sarwar, H., Ishaq, M. I., Amin, A., & Ahmed, R. (2020). Ethical leadership, work engagement, employees' well-being, and performance: a cross-cultural comparison. *Journal of Sustainable Tourism*, 28(12), 2008–2026.

Schaltegger, S. (2002). The link between 'green' and economic success: environmental management as the crucial trigger between environmental and economic performance. *Journal of Environmental Management*, 65(4), 339–346.

Scherer, A.G., & Patzer, M. (2011). Where is the theory in stakeholder theory? – A meta-analysis of the pluralism in stakeholder theory. In *Stakeholder theory. Impact and prospects*. Edward Elgar.

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.

Seman, N.A.A., Govindan, K., Mardani, A., Zakuan, N., Saman, M.Z.M., Hooker, R.E., Ozkul, S. (2019). The mediating effect of green innovation on the relationship between green supply chain management and

- environmental performance. *Journal of Cleaner Production*, 229, 115–127.
- Şengüllendi, F., Bilgetürk, M., & Fındıklı, M. (2023). Ethical leadership and green innovation: the mediating role of green organizational culture. *Journal of Environmental Planning and Management*, 1–22.
- Sharma, S., Pablo, A.L., & Vredenburg, H. (1999). Corporate environmental responsiveness strategies: the importance of issue interpretation and organizational context. *Journal of Applied Behavioral Science*, 35(1), 87–108.
- Shehabi, M. (2023). *The Hurdles of Energy Transitions in Arab States*. Carnegie Endowment for International Peace. <https://carnegieendowment.org/2023/05/03/hurdles-of-energy-transitions-in-arab-states-pub-89518>
- Singh, S., Chen, J., Guidice, M.D., & El-Kassar, A-N. (2019). Environmental ethics, environmental performance, and competitive advantage: role of environmental training. *Technological Forecasting and Social Change*, 146, 203–211.
- Singh, S., Giudice, M.D., Chierici, R., & Graziano, D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change*, 150, 119762.
- Soken, N., & Barnes, B.K. (2014). What kills innovation? Your role as a leader in supporting an innovative culture. *Industrial and Commercial Training*, 46(1), 7–15.
- Soliman, E., Al-Tabtabai, H., Almusalam, A., & Hussein, M. (2023). Impact of COVID-19 on labor's motivational factors and construction productivity. *International Journal of Construction Management*, 23(15), 2699–2708.
- Somech, A. (2006). The effects of leadership style and team process on performance and innovation in functionally heterogeneous teams. *Journal of Management*, 32(1), 132–157.

- Taber, K.S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 48, 1273–1296.
- Taqi, D. A. (2020). The Impact of Culture on Third-Line Leaders in the Kuwait Oil Sector. *International Journal of Business and Social Science*, 11(8), 92–99.
- Tierney, P., & Farmer, S.M. (2004). The Pygmalion process and employee creativity. *Journal of Management*, 30(3), 413–432.
- Tran Pham, T. K., & Nguyen Le, T. Q. H. T. (2023). Impacts of ethical leadership, innovative climate on project success: the role of innovative behavior and time pressure. *Baltic Journal of Management*, 19(1), 19-35.
- Tu, Y., & Xinxin, L. (2016). Do ethical leaders give followers the confidence to go the extra mile? The moderating role of intrinsic motivation. *Journal of Business Ethics*, 135(1), 129–144.
- Ullah, I., & Mirza, B. (2021). The influence of ethical leadership on innovative performance: Modeling the mediating role of intellectual capital. *Journal of Management Development*, 40(4), 273–292.
- UNDP. (2022). Eco-Cities Towards the achievement of Kuwait National Development Plan (KNDP). <https://www.undp.org/kuwait/news/eco-cities-towards-achievement-kuwait-national-development-plan-kndp>
- Villaluz, V., & Hechaova, G. (2019). Ownership and Leadership in Building an Innovation Culture. *Leadership and Organization Development Journal*, 40(2), 2019 138-150.
- Voegtlin, C. (2011). Development of a scale measuring discursive responsible leadership. In *Responsible leadership*. Springer.
- Wagner, M., & Schaltegger, S. (2004). The Effect of Corporate Environmental Strategy Choice and Environmental Performance on Competitiveness and Economic Performance: An Empirical Study of EU Manufacturing. *European Management Journal*, 22(5), 557–572.

- Walumbwa, F.O., & Schaubroeck, J. (2009). Leader personality traits and employee voice behavior: Mediating roles of ethical leadership and work group psychological safety. *Journal of Applied Psychology*, 94(4), 1275-1286.
- Wang, A-C., & Cheng, B-S. (2010). When does benevolent leadership lead to creativity? The moderating role of creative role identity and job autonomy. *Journal of Organizational Behavior*, 31(1), 106–121.
- Wang, P., & Rode, J.C. (2010). Transformational leadership and follower creativity: The moderating effects of identification with leader and organizational climate. *Human Relations*, 63(8), 1105–1128.
- Wimbush, J.C., & Shepard, J.M. (1994). Toward an understanding of ethical climate: its relationship to ethical behavior and supervisory influence. *Journal of Business Ethics*, 13(8), 637–647.
- Xuecheng, W., & Iqbal, Q. (2022). Ethical Leadership, Bricolage, and Eco-Innovation in the Chinese Manufacturing Industry: A Multi-Theory Perspective. *Sustainability (Switzerland)*, 14(12), 1-15.
- Yang, L., & Liu, H. (2022). The Impact of Ethical Leadership on Employees' Green Innovation Behavior: A Mediating-Moderating Model. *Frontiers in Psychology*, 13, 951861.
- Ye, P., Liu, L., & Tan, J. (2022). The influence of organisational justice and ethical leadership on employees' innovation behaviour. *European Journal of Innovation Management*, 26(4), 1129-1149.
- Ye, L., Junye, D., & Yan, M. (2011). *The relationships between leadership styles and organizational innovation climate: Cases of some high-tech enterprises in Hebei*. 2011 International Conference on Business Management and Electronic Information, 2, 316–319. <https://doi.org/10.1109/ICBMEI.2011.5917910>
- Yunus, E., & Michalisin, M. (2016). Sustained competitive advantage through green supply chain management practices: A Natural-Resource-Based View Approach. *International Journal of Services and Operations Management*, 25(2), 135-154.

Zhang, Y., Zheng, J., & Darko, A. (2018). How Does Transformational Leadership Promote Innovation in Construction? The Mediating Role of Innovation Climate and the Multilevel Moderation Role of Project Requirements. *Sustainability*, 10(5), 1506.

Ziegler, A., & Nogareda, J.S. (2009). Environmental management systems and technological environmental innovations: exploring the causal relationship. *Research Policy*, 38(5), 885–893.