



Developing Blueprints for Sustainable Excellence: The Integration of Green Intellectual Capital, Green Transformative Leadership, Entrepreneurial Orientation, and Cost Leadership Strategy

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ABSTRACT

The need for sustainability in the hospitality sector is growing more important due to environmental issues and changing customer demands. This research utilized RBV theory to evaluate the role of green transformational leadership, green intellectual capital, entrepreneurial orientation, and cost leadership strategy in achieving sustainability. Accordingly, entrepreneurial orientation was examined as a mediator between green intellectual capital, green transformational leadership (two independent variables) and sustainable performance (dependent variable), whereas, cost leadership strategy was investigated as a moderator on the relationship of entrepreneurial orientation and sustainable performance. Data was collected from 230 senior executives in the hospitality sector, and was analyzed by using SMART PLS 4.0.9.9. The findings indicated that green intellectual capital had a favorable influence on sustainable performance, while the effect of green transformational leadership was found to be insignificant. Additionally, entrepreneurial orientation mediated the link between green intellectual capital and sustainable performance, and also between green transformational leadership and sustainable performance. Moreover, cost leadership strategy positively moderated the link of entrepreneurial orientation and sustainable performance. Finally, the study highlighted significant recommendations for policymakers and for research scholars.

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1. Introduction

Organizations are currently under significant pressure from environmental, economic, and societal perspectives. Moreover, due to the competitive environment, business trends have undergone rapid changes on a global scale (Kraus, Rehman, & García, 2020). Accordingly, scholars have asserted that organizations need to prioritize sustainability for growth, stability, and competitiveness (Chatterjee, Chaudhuri, Vrontis, & Thrassou, 2022; Kim & Hall, 2021). Therefore, efforts toward sustainability have gained significant attention from researchers, academics, reformers, and personnel (Rafique, Farhan, & Tariq, 2024; Y. Sun, Duru, Razzaq, & Dinca, 2021). Responding to these challenges businesses are utilizing their assets for outperforming the rivals and meeting their strategic objectives (Wei, Abbas, Alarifi, Zhang, Adam, & de Queiroz, 2023). Green intellectual capital (GIC) is a strategic asset that serves to improve the ability of businesses to compete while keeping the environmental safety in check (Yusliza, Yong, Tanveer, Ramayah, Faezah, & Muhammad, 2020). Accordingly, GIC includes human capital, structural capital, and relational capital, which are quite useful in achieving the competitive advantage (Chen, 2008; Kianto, Ritala, Spender, & Vanhala, 2014; Vale, Miranda, Azevedo, & Tavares, 2022; Xu & Wang, 2018). Moreover, IC is intricately linked to knowledge management, which plays a crucial role in promoting sustainability across various facets (planet, people, and profit)(Vale et al., 2022). Consequently, it drives the creation of manufacturing

methods that uphold the environmental and social equilibrium of the global ecosystem (Del Giudice, Di Vaio, Hassan, & Palladino, 2022; Vale et al., 2022). While various probes have been made to investigate the connection between sustainability and various precursors, the contribution of GIC remains unclear (Bhatti, Ur Rehman, Mirza, Nguyen, Samad, & Kamal, 2023; Rehman, Elrehail, Alsaad, & Bhatti, 2021). However, many scholars are of the view that IC and sustainable performance (SP) have a favorable relationship (Dal Mas, 2019; W. Li, Bhutto, Waris, & Hu, 2023; Yusliza et al., 2020). In comparison, scholars have also discovered that GIC has a significant effect on one of the facets of SP (Rehman et al., 2021), and SP (Bhatti et al., 2023; Omar, Mohd Yusoff, & Kamarul Zaman, 2019), economic and environmental performance (M. S. Shah, 2022). Consequently, more research is obligatory to clarify the link between GIC and SP (Bhatti et al., 2023).

Likewise, effective leadership in firms is pivotal in motivating employees, fostering inspiration, and ultimately enhancing firm outcomes and productivity (Perez, Ejaz, & Ejaz, 2023; Rafique, Farhan, & Tariq, 2024). It is therefore not erroneous to state that transformational leaders can establish a compelling goal that may help others to carry out their duties in a way that would allow them to compete in the market and acquire sustained performance (Allam, Asad, Ali, & Malik, 2022; Rasyid & Stepanus, 2024). Accordingly, Althnayan, Alarifi, Bajaba, and Alsabban (2022) argued that leadership styles affect several areas of an organization's performance, but there's a paucity of empirical studies exploring the correlation between leadership styles and SP. Likewise, as per Bhatti et al. (2023), and Perez, Ejaz, and Ejaz (2023), green transformational leadership (GTL) is considered to be an important factor in examining SP. In a similar vein, an investigation by Shoaib, Nawal, Zámečník, Korsakienè, and Rehman (2022), GTL influenced employees' pro-environmental behavior, while its impact on SP was found to be modest. Despite this, numerous researchers have highlighted that the role of GTL in influencing SP has been overlooked in recent years (Bhatti et al., 2023; Shoaib et al., 2022; Tosun, Parvez, Bilim, & Yu, 2022), and hence requires further consideration. In addition, entrepreneurial orientation (EO) is also seen as a source that fosters the development and implementation of innovative and adaptive strategic actions creating a superior and competitive value (Abbade, de Vargas Mores, & Spanhol, 2014). It is believed that EO is associated with higher and more sustained efficiency in businesses (Basco, Hernández-Perlines, & Rodríguez-García, 2020; Habib, Bao, Nabi, Dulal, Asha, & Islam, 2021). Some studies indicated that an EO and SP are significantly positively correlated (Fatoki, 2019; Hernández-Perlines & Ibarra Cisneros, 2018; Jiang, Chai, Shao, & Feng, 2018). While some scholars discovered a weak or unfavorable relation between EO and SP (El-Masry, El-Samadicy, & Ragheb, 2021; Yadegaridehkordi, Foroughi, Iranmanesh, Nilashi, & Ghobakhloo, 2023). Moreover, Fatoki (2019) asserted that the impact of EO on SP of hospitality firms is unclear and under-researched. This encouraged us to further investigate the phenomenon for understanding the specifics of the connection between EO and SP.

Moreover, the value of GIC for EO has been a worthwhile area of study in the existing research (Al-Jinini, Dahiyat, & Bontis, 2019). GIC can enhance entrepreneurial attributes if utilized effectively (Wach, Głodowska, & Maciejewski, 2018). Considering the uncertainty, complexities, tough competition, and rapid innovation of today's business environment, companies that make substantial investments in their knowledge and intellectual property are better able to spot emerging markets and take the lead over their rivals (Al-Jinini, Dahiyat, & Bontis, 2019). From an organizational standpoint, researchers have discovered that intellectual capital fosters firm inventive capabilities (Engelman, Fracasso, Schmidt, & Zen, 2017). Moreover, studies proved that EO is positively influenced by GIC (Poblete & Mandakovic, 2021; Yaseen, El Qirem, Nussair, & Sa'd, 2023; Yu, Aslam, Murad, Jiatong, & Syed, 2022) and aids in making decisions (Guzmán, Santos, & Barroso, 2020). Conversely, few scholars believed that the underlying causes of GIC and EO might not be adequately captured by the direct link between them (Anwar, Khan, & Khan, 2018; Hanifah, Abd Halim, Vafaei-Zadeh, & Nawaser, 2022; Yaseen et al., 2023). Moreover, Chaudhary, Dhir, Farronato, Nicotra, and Pironti (2023) also highlighted the ambiguity around the connection between IC and entrepreneurial activity. Which triggered the need for further investigation. Apart from this, leadership is also considered vital for promoting entrepreneurial activities in an organization (Khorshid, Mehdiabadi, Spulbar, Birau, & Mitroi, 2023a). It is believed that organizations must adopt entrepreneurial activities for their survival (Zaki, Khaled, Elsaïad, & Samir, 2023). Contributing to entrepreneurship and leadership literature, Dapper (2019) unveiled that leadership styles significantly influence EO. Because transformational leadership fosters creativity and information sharing through the captivation of the leader, it is ideal for firms that pursue an EO strategy (Dzomonda, Fatoki, & Oni, 2017). Similarly, researchers have

discovered a connection between EO and TL in organizational settings (Dapper, 2019; Harsanto & Roelfsema, 2015). Likewise, researchers are of the view that transformational leaders enhance an organization's ability and desire for EO (Dapper, 2019; Mamabolo & Rose, 2019; Obeidat, Nofal, & Masa'deh, 2018), and also encourage the entrepreneurial attitude by changing personal behavior and values (BL & Muchran, 2017; Khorshid et al., 2023a). However, literature reports little evidence of studies that investigated the link between GTL and EO (Bhatti et al., 2023; Khorshid et al., 2023a). Therefore, this research requires more attention to explore the relationship between GTL and EO.

GIC has been found to efficiently maintain a competitive edge (Yong, Yusliza, Ramayah, Farooq, & Tanveer, 2022). Scholarly work by Mahmood and Nasir (2023), Yadiati (2019) provided support for this notion that GIC fosters organizational performance. However, there are limited studies suggesting that GIC does not affect sustainable performance (M. S. Shah, 2022; Shehzad, Zhang, Dost, Ahmad, & Alam, 2023; Yusoff, Omar, Zaman, & Samad, 2019). Therefore, many scholars like Bhatti et al. (2023); Rehman, Bhatti, and Chaudhry (2019), and M. S. Shah (2022) pointed out that some other intervening variables might interplay between GIC and SP and thus the reality needs to be explored further. This highlighted the need to examine SP and its antecedents in underdeveloped nations, especially in the hotel industry. Likewise, GTL has a major impact on organizational performance (Kusi, Zhao, & Sukamani, 2021), and on employees' attitudes (Zhao & Huang, 2022), which leads to sustainability (Fatoki, 2019; Graves, Sarkis, & Zhu, 2013; Majali, Alkaraki, Asad, Aladwan, & Aledeinat, 2022; Robertson, 2018). GTL has drawn increased attention to promoting environmentally friendly behavior since it has a particular emphasis on environmental sustainability (Z. Li, Xue, Li, Chen, & Wang, 2020; Rafique, Farhan, & Tariq, 2024). On the other hand, authors have asserted that EO assists companies in identifying their strengths, looking for potential, and renewing their operations in an eco-friendly manner (Majali et al., 2022; S. K. Singh, Del Giudice, Chierici, & Graziano, 2020). Moreover, scholars also highlighted that entrepreneurial attitude can significantly affect SP (Ibarra-Cisneros & Hernandez-Perlines, 2019). In addition, W. Song and Yu (2018), called for the need to investigate the intervening role of EO through which GLT can contribute to improved SP. Considering this, few scholars have examined the intermediary role of different variables to confirm the link of GTL and SP, for example, green capability (Bhatti et al., 2023), green product innovation (Majali et al., 2022) green mindfulness and green self-efficacy (Chen, Chang, & Lin, 2014), and innovation capabilities (Asif, Yang, & Hashim, 2024). Despite these efforts, researchers have hardly paid attention to examining the role of EO as an intermediary between GTL and SP (Majali et al., 2022). Therefore, the intervening role of EO between GTL and SP should be ascertained (Bhatti et al., 2023).

Moreover, entrepreneurial orientation comprises the expertise, skills, and attitudes of employees (Novojen & Birnaz, 2019) necessary to plan, organize, and oversee a business enterprise, ultimately leading to SP (Mokbel Al Koliby, Abdullah, & Mohd Suki, 2024; Novojen & Birnaz, 2019; Vu & Nwachukwu, 2021). However, scholars are of the view that only few components of EO (innovativeness and proactiveness) have a noteworthy effect on SP (Fatoki, 2019; Hernández-Perlines & Ibarra Cisneros, 2018; Jiang et al., 2018), while risk-taking has no relationship (Chelliah, Aravindan, & Muthaiyah, 2022; Rezaei & Ortt, 2018). Accordingly, Rezaei and Ortt (2018), C. L. Wang (2008), and Chelliah, Aravindan, and Muthaiyah (2022) believe that EO's impact on performance is not fully understood by its direct effect alone. As a result, the influence of EO on SP is not adequately understood (Chelliah, Aravindan, & Muthaiyah, 2022; El-Masry, El-Samadicy, & Ragheb, 2021; Yadegaridehkordi et al., 2023). Considering these results, few scholars, including, Bosompem et al. (2024), and Ameer and Khan (2022) have recommended the use of the moderating variable to examine this association. Hence, Bhatti et al. (2023) urged future scholars to investigate the conditional impact of cost leadership strategy (CLS) on the EO-SP link. To address this gap, the current study aims to identify the moderating role of CLS on EO-SP link.

Notably, the hotel industry plays a crucial part in contributing to Pakistan's overall revenue (Manzoor, Wei, Asif, Haq, & Rehman, 2019). To improve organizational performance, hoteliers should adopt green strategies like GIC, and GTL (Bhatti et al., 2023) to enhance the efficiency of their processes and introduce innovative measures (Kuo, Fang, & LePage, 2022). The hotel industry has the potential to generate billions of dollars in economic benefits (S. Gupta, Kushwaha, Badhera, & Singh, 2024). Moreover, the hotel industry can enhance corporate

sustainability by systematically addressing its environmental and social impacts, such as reducing energy usage, minimizing waste, and promoting social responsibility within operations (S. Gupta et al., 2024). Therefore, utilizing the RBV's perspective, this research project endeavors to optimize knowledge of sustainable efficacy within the domain of hotel industry. It delineates the mediating influence of EO and expounds on how GIC and GTL impact environmental sustainability outcomes. Furthermore, it investigates the moderating effect of the cost leadership strategy on attaining sustainability objectives. Regarding sustainable performance, there is a need of more efforts to understand the antecedents of sustainable performance. There are several questions that need to be answered: (1) whether GIC and SP are positively associated? (2) does GTL positively influence SP? (3) whether EO positively influences SP? (4) does GIC positively influence EO? (5) Whether GTL positively influences EO? (6) Whether EO acts as a mediator between GIC and SP? (7) Does EO act as a mediator between GTL and SP? (8) Whether CLS strengthens the relationship between EO and SP? To sum up, this research is expected to provide insightful information about the complex dynamics of SP in the hotel sector. As far as the arrangement of the paper is concerned, it is organized into several different sections: the "introduction" informed the reader about the background and the research gaps, the "literature review" will examine the current status of knowledge about the variables concerned, and the "methodology" will describe the overall strategy of the study. The "results and discussion" sections will highlight the findings, researchers' understanding of the important results and usefulness of the study. The final section of the study will highlight limitations of the study and recommendations for future research.

2. Literature Review and Hypothesis Development

2.1. Theoretical Framework

The current study utilized the theoretical lens of RBV to develop research framework. According to Barney (1991) and Shehzad et al. (2023), "assets are useful when they enable a business to create or carry out strategies that boost efficiency and effectiveness". The basic tenet of RBV holds that businesses may achieve a long-term competitive edge by solving ecosystem challenges (Sethi, Shah, Jan, & Mustafa, 2023). Prior studies suggested that GIC is one of the most important resource with a dynamic ability to strengthen business performance (Shehzad et al., 2023). So, GIC is an asset that is not tangible that serves to improve the ability to compete while still protecting the environment which can increase SP (Yusliza et al., 2020). Likewise, scholars believe that GTL is not just important for firm performance (Ng, 2017; Shehzad et al., 2023) but also for followers who become more successful both individually and as a team (Barrick, Thurgood, Smith, & Courtright, 2015). Therefore, by focusing on acquiring and developing this capital through EO, companies can enhance their competitive advantage by leveraging unique and valuable resources (J. Wang, 2022).

Similarly, a transformational leader supports followers in realizing their environmental objectives, attends to their specific needs, and creates their surroundings in which they may develop (Hameed, Naeem, Hassan, Naeem, Nazim, & Maqbool, 2022; Rafique, Farhan, & Tariq, 2024). Similarly, their capacity to produce resources enables them to enhance already-existing talents and make them unique (Kamboj & Rana, 2023). Likewise, EO is a critical resource that drives innovative behavior and performance (M. Hughes, Hughes, Hodgkinson, Chang, & Chang, 2022; Majali et al., 2022). Accordingly, Akomea, Agyapong, Ampah, and Osei (2023) believe that these two capabilities (EO and SP) create a sustainable competitive advantage that is rare, expensive, unique, and non-replaceable, which can help businesses in the long run (Wales, Patel, Parida, & Kreiser, 2013). Moreover, RBV emphasizes internal capabilities such as EO and SP to sustain competitive advantage, aligning with its focus on internal resource utilization to achieve and sustain long-term success (Anwar & Shah, 2021). Moreover, he highlighted the internal capabilities as a key source of competitive edge, RBV underscores its core principles (Al-Mamary & Alshallaqi, 2022; Mohammad, 2015a, 2015b; Mohammad & Ahmed, 2017).

2.2. Green Intellectual Capital and Sustainable Performance

According to Asiaei, Bontis, Alizadeh, and Yaghoubi (2022); Chen (2008), and Chang and Chen (2012), GIC is clearly defined as "the total stock of all kinds of intangible assets, knowledge, capabilities, and relationships, etc. about environmental protection or green innovation of both the individual and organization levels within a company" (p. 77). GIC encompasses three components, specifically, GHC (Green Human Capital), GRC (Green Relational Capital), and GSC (Green Structural Capital) (Asiaei et al., 2022). Furthermore, The World Commission on Environment and Development (Malik, Cao, Mughal, Kundi, Mughal, & Ramayah, 2020) has defined SP as "development that satisfies current requirements without compromising the ability

of future generations to meet their own needs". Moreover, the concept of sustainable performance, often referred to as the 3 P's: people, planet, and profit (Elkington, 1994). Organizations must address environmental issues (Yong, Yusliza, Ramayah, & Fawehinmi, 2019) as they prioritize SP as their main goal (Glatzel, Helmcke, & Wine, 1997). According to Asiaei et al. (2022), and Yusliza et al. (2020), organizations can enhance environmental sustainability through green knowledge procurement and utilization, alongside GIC, which reduces costs, boost efficiency, and ensures long-term performance. Future wealth generation and SP are propelled by GIC (Haldorai, Kim, & Garcia, 2022) and this the reason why studying GIC-SP is important (Yusliza et al., 2020). In the past, various studies have explored the link between GIC and SP (Boso, Adusei, & Demah, 2022; Dal Mas, 2019; Yong et al., 2019). Remarkably, some studies have made noteworthy efforts to explore GIC from the perspective of manufacturing firms. They highlighted its significant impact on both social and economic performance (Yusliza et al., 2020). Moreover, Haldorai, Kim, and Garcia (2022), examined the role of GIC in the services sector and noted that it enhances organizational productivity. Furthermore, several studies including, Dler M Ahmed, Z Azhar, and Aram J Mohammad (2024); Dler Mousa Ahmed, Zubir Azhar, and Aram Jawhar Mohammad (2024) Yong et al. (2022), Haldorai, Kim, and Garcia (2022), and Wei et al. (2023), have demonstrated the link between GIC and SP using the RBV theory, a company's internal resources and competencies result in greater performance rather than the structure of the industry (Yong et al., 2022). To acquire a strategic advantage, the RBV highlighted the necessity to optimize an organization's intellectual assets (human capital) (M. Song, Peng, Shang, & Zhao, 2022). (Marco-Lajara, Zaragoza-Sáez, Martínez-Falcó, & Ruiz-Fernández, 2022; Najam, Abbas, Álvarez-Otero, Dogan, & Sial, 2022; Yusliza et al., 2020). Contrary to this, some studies by Hina, Khaliq, Shaari, Mansor, Kashmeeri, and Yaacob (2024), Penrose (2009), and Hart (1995) claimed that while RBV theory addresses tangible assets as well as intangible ones but it is unable to consider that GIC plays a critical role as crucial enablers of performance. Therefore, the nexus of GIC and SP needs to be examined further (Wei et al., 2023). Therefore, we claim that:

H1: Green intellectual capital determines sustainable performance

2.3. Green Transformational Leadership and Sustainable Performance

Leaders adopting a transformative approach possess a clearly defined vision for both the current and future objectives of the organization (Al-Ghazali & Afsar, 2021). Accordingly, GTL is defined as "leaders who motivate followers to achieve environmental goals and inspire followers to perform beyond expected levels of environmental performance" (Chen & Chang, 2013; P. Singh & Koneru, 2024). Similarly, transformational leaders inspire trust, motivates innovation, and enhances company performance (Perez, Ejaz, & Ejaz, 2023; X. Sun, El Askary, Meo, & Hussain, 2022). Notably, through GTL style, leaders motivate their staff members to achieve goals that lead to the SP of an organization (Para-González, Jiménez-Jiménez, & Martínez-Lorente, 2018; Tosun et al., 2022). In the recent past, multiple researchers have found a favorable link among GTL and SP (V. Gupta & Zhang, 2020; Javed, Ali, Asrar-ul-Haq, Ali, & Kirmani, 2020; Luo, Zaman, Jamil, & Khan, 2024). However, some researchers found that GTL has no significant impact on SP (Pantouvakis & Vlachos, 2020; Shoaib et al., 2022). However, from the perspective of the RBV, GTL are considered the most important source in stimulating, motivating, and supporting their organizations' workforces; in doing so, they may effectively raise their output and SP (Khaddage-Soboh, Yunis, Imran, & Zeb, 2024; X. Sun, El Askary, Meo, Zafar, & Hussain, 2022). In addition, RBV states that in companies environment management strategy the most important asset is leadership (Begum, Jingwei, Haider, Ajmal, Khan, & Han, 2021; Mittal & Dhar, 2016; Perez, Ejaz, & Ejaz, 2023) and GTL is one of those. Hence, it is important to further examine the connection between GTL and SP (Bhatti et al., 2023; Shoaib et al., 2022; Tosun et al., 2022). As a result, we hypothesize that:

H2: Green transformational leadership determines sustainable performance.

2.4. Entrepreneurial orientation and sustainable performance

An entrepreneurial mindset helps businesses to identify market opportunities, introduce innovation, differentiate processes, and establish stability (García-Villaverde, Rodrigo-Alarcón, Ruiz-Ortega, & Parra-Requena, 2018; Yu et al., 2022). According to (Yu et al., 2022), EO is defined as a means of carrying out a plan that utilizes a range of resources which belong to companies. In general, EO combines competitive aggressiveness, risk-taking, autonomy,

proactiveness, and innovativeness (Al-Mamary & Alshallaqi, 2022). Moreover, EO is classified as a vital organizational process that aids companies to survive and enhance their performance (Dionysus & Arifin, 2020). According to Ingram, Bratnicka-Myśliwiec, Kraśnicka, and Steinerowska-Streb (2022), the influence of EO on SP is shaped by organizational components such as strategy, structure, and size, as well as environmental factors like hostility, dynamism, and complexity. Moreover, Praton, Darmasetiawan, Yudianto, and Jeong (2019), and Khorshid et al. (2023a), believe that top managers of businesses make the strategic choice to be entrepreneurial, which is seen as a critical choice for SP. In the same vein, according to P. Hughes, Hodgkinson, Hughes, and Arshad (2018), EO is a strategic stance and behavioral inclination that concentrates on the strategic trends needed to achieve SP. Furthermore, some researchers revealed a significant link between EO and SP (Hu & Tresirichod, 2024; Jabbour & de Sousa Jabbour, 2016; Jiang et al., 2018). On the contrary, others found an insignificant relationship (Akomea, Agyapong, Ampah, & Osei, 2022; El-Masry, El-Samadicy, & Ragheb, 2021; Yadegaridehkordi et al., 2023). Moreover, research from the Eastern Cape, South Africa by Dionysus and Arifin (2020); Matchaba-Hove and Vambe (2014), demonstrated that some of the facets of EO have a favorable impact on SP, while risk-taking and autonomy were found to have no discernible impact. Therefore, considering the uncertainty prevailing about the association between EO-SP, scholars need to focus more on investigating this relationship (Akomea et al., 2022; El-Masry, El-Samadicy, & Ragheb, 2021; Yadegaridehkordi et al., 2023). Accordingly, from the perspective of RBV, EO drives SP by fostering unique resource utilization, thus enabling adaptability to environmental demands and long-term success (Yadegaridehkordi et al., 2023). Thus, we propose that,

H3: Entrepreneurial Orientation Determines Sustainable Performance

2.5. Green Intellectual Capital and Entrepreneurial orientation

Businesses can strengthen their market position by investing in GICs and by encouraging an entrepreneurial spirit (Al-Jinini, Dahiyat, & Bontis, 2019). Moreover, according to Wu and Yu (2023), GIC may be able to reconcile competitive interests and expectations between businesses and other stakeholders when it comes to an EO. However, it has been discovered that GIC significantly enhance the understanding of the connection between corporate innovation and entrepreneurial strategy (Jirakraisiri, Badir, & Frank, 2021; Kianto, Sáenz, & Aramburu, 2017; Wu & Yu, 2023). Furthermore, human capital may have a connection with EO, because excellent personnel contribute more information that shapes EO (Yu et al., 2022). Previous studies indicates that GIC have a positive impact on EO (Monteiro, Soares, & Rua, 2019; Poblete & Mandakovic, 2021; Yu et al., 2022). In contrast, some studies by Anwar, Khan, and Khan (2018); Hanifah et al. (2022), and Yaseen et al. (2023), found a weak and insignificant link between GIC and EO. Therefore, as per RBV, it is argued here that GIC is the strategic resources that enable companies to leverage green knowledge, capabilities, and unique partnerships. These resources empower the workforce to participate in innovative and green business ventures, fostering EO and creating a rivalry edge for the company (Yong et al., 2022; Yusliza et al., 2020). Hence, considering this discussion, we postulate:

H4: Green Intellectual Capital Determines Entrepreneurial Orientation

2.6. Green Transformational Leadership and Entrepreneurial Orientation

The attributes of an entrepreneurial attitude are greatly influenced by leaders, who also have a certain impact on organizational dedication and innovation performance (Iqbal, Moleiro Martins, Nuno Mata, Naz, Akhtar, & Abreu, 2021). Accordingly Dzomonda, Fatoki, and Oni (2017), asserted that because transformational leaders actively foster innovation and knowledge transmission through the leader's captivating behavior, it is suitable for firms to embrace an EO approach. Moreover, Hashim (2019), Obeidat, Nofal, and Masa'deh (2018), and Khorshid et al. (2023a), proposed that managers must use GTL to promote entrepreneurial behavior in their organization's strategic goals and optimize resource utilization. Hence, it is believed that leaders who use a transformational approach may influence employee behaviors and foster an entrepreneurial perspective through conventions, principles and practices (Khorshid et al., 2023a). Similarly, literature indicates that transformational leadership, marked by inspiration, vision, and profound significance, is pivotal in cultivating an environment conducive to entrepreneurship and innovation within an organization (Demircioglu & Chowdhury, 2021). Additionally, it exerts a significant influence on driving innovative behaviors, which are key attributes of entrepreneurial orientation (Khorshid, Mehdiabadi, Spulbar, Birau, & Mitroi,

2023b). Despite its potential contribution, scholars have pointed out that the studies on the link between EO and GTFL are scarce (Bhatti et al., 2023; Khorshid et al., 2023a). Therefore, considering paucity of research on GTL and EO, scholars need to focus more on exploring this relationship. Consequently, we put forth the following proposition:

H5: Green Transformational Leadership Determines Entrepreneurial Orientation

2.7. Green Intellectual Capital, Entrepreneurial Orientation and Sustainable Performance

According to Awan, Dunaan, Jamil, and Gul (2023), GIC has been recognized as an important factor in elucidating the connection between business creativity and entrepreneurial approach. Accordingly, Marco-Lajara et al. (2022) highlighted the importance of green resources for a company's sustainable growth, as they enhance entrepreneurial activities and support decision-making (Guzmán, Santos, & Barroso, 2020; Rafique, Farhan, & Tariq, 2024; Yu et al., 2022). By cultivating and appropriating this specific resource, companies are better able to make strategic adjustments and gain a rivalry edge in SP (Hu & Tresirichod, 2024). Moreover, by diffusing GIC firms are also better equipped to foster EO, meet societal expectations and thereby enhance the social impact of SP (W. Li et al., 2023). Reflecting on the internal implications, GIC could reduce environmental expenses and encourage environmentally conscious thinking (Paudel, 2020). Accordingly Yusliza et al. (2020), and Dal Mas (2019) argued that there is a favorable correlation between GIC and SP. However, multiple authors including Bhatti et al. (2023); Haldorai, Kim, and Garcia (2022); Rehman, Bhatti, and Chaudhry (2019), and Yusoff et al. (2019) found that there is no apparent influence of GIC on SP. Hence, some authors suggest that a mediator is essential between GIC and SP. Similarly, Bhatti et al. (2023); Rehman, Bhatti, and Chaudhry (2019), and M. S. Shah (2022) are amongst many others who proposed that a mediator could play a vital role in this regard. Therefore, Bhatti et al. (2023), and Rehman et al. (2021) suggested to use EO as an intermediary variable between GIC and SP. Prior literature has demonstrated that IC positively affects EO (Guzmán, Santos, & Barroso, 2020). Furthermore, some studies demonstrated that EO positively influences SP. Accordingly, we hypothesize

H6: EO positively mediates the association between green intellectual capital and sustainable performance

2.8. Green Transformational Leadership, Entrepreneurial Orientation, and Sustainable Performance

The scholarly work by Çop, Olorunsola, and Alola (2021), and Zhao and Huang (2022), emphasized that leaders should build strong psychological capital in their firms to tackle today's environmental challenges and to gain a competitive advantage. Considering the opinions of Peng, Yin, Hou, Zou, and Nie (2020), GTL has the potential to make a noteworthy contribution in promoting SP. Similarly, from multiple studies it was reported that GTL significantly predicted SP (Perez, Ejaz, & Ejaz, 2023; Shoaib et al., 2022; Zhao & Huang, 2022). Contrary to this, Some studies revealed an insignificant relationship between GTL and SP (Pantouvakis & Vlachos, 2020; Shoaib et al., 2022). Keeping this in view, few scholars have highlighted the significance of examining the role of intervening variables between GTL and SP (Bhatti et al., 2023; Rehman, Bhatti, & Chaudhry, 2019; Tosun et al., 2022). Notably, Sapta, Sudja, Landra, and Rustiarini (2021) conducted an empirical investigation among farmers in Indonesia and revealed that GTL does not directly impact on SP through the utilization of knowledge.

However, according to Jung, Chow, and Wu (2003), GTL can significantly contribute to cultivating an EO through enhancing innovation and facilitating knowledge sharing. As stated by Anwar, Clauss, and Issah (2022), and S. Ali, Li, Yang, Hussain, and Latif (2020), leaders' EO and intangible skills foster innovation and strengthen the SP. This perspective aligns with the RBV, which underscores the unique expertise of enterprises as sources of competitive advantage, showcasing the direct as well as indirect impact of EO and GTL on superior SP (Majali et al., 2022). Therefore, researchers are particularly interested in learning more about the indirect connection between the two constructs in the hospitality sector (Asif, Yang, & Hashim, 2024; Bhatti et al., 2023; Majali et al., 2022). Hence, we put forth the following:

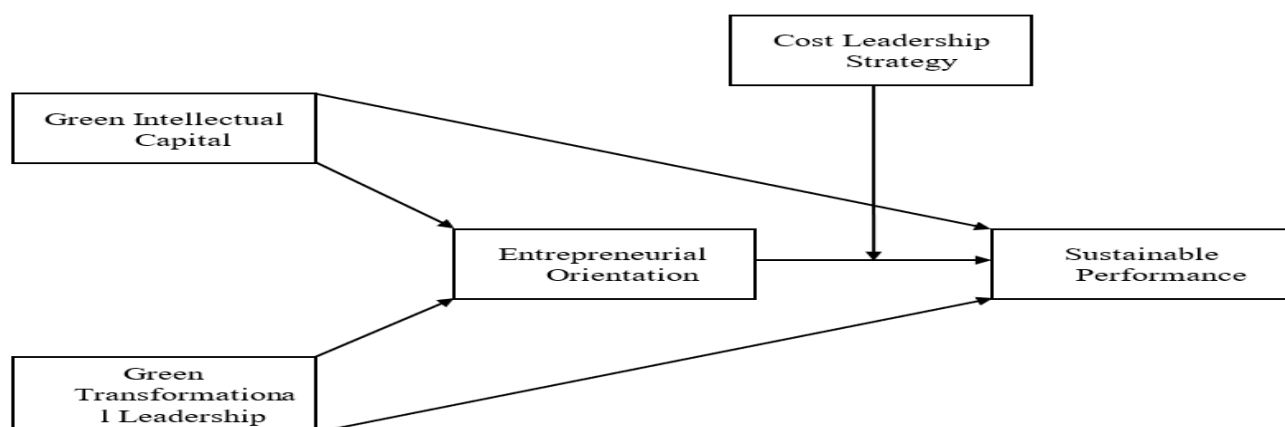
H7: EO positively mediates the association between green transformational leadership and sustainable performance

2.9. Cost Leadership Strategy and Sustainable Performance

EO aims to support companies that consider SP; it was recently described as a worldwide trend (Golsefid-Alavi, Sakhdari, & Alirezaei, 2021; Zu, 2013). For instance, researchers indicated a strong association between EO and SP (Isichei, Emmanuel Agbaeze, & Odiba, 2020). Conversely, some studies find an insignificant link between EO and SP (Mazhar, Hooi Ting, Zaib Abbasi, Nadeem, & Abbasi, 2022; Yadegaridehkordi et al., 2023). Interestingly, few scholars reported a negative relation (Akomea et al., 2023). Accordingly, Rezaei and Ortt (2018), C. L. Wang (2008), and Chelliah, Aravindan, and Muthaiyah (2022), studies have shown that EO's direct impact on SP alone does not fully explain its relationship with SP. Therefore, some scholars, including, Bosompem et al. (2024), Ameer and Khan (2022), and Arabeche, Soudani, Brahmi, Aldieri, Vinci, and Abdelli (2022) recommended the use of the moderating variable to examine this association. Moreover, Bhatti et al. (2023) suggested to use of a CLS as a moderating variable between EO and SP. According to Anwar and Shah (2021), CLS is defined as "a strategy that involves offering quality products at cheap prices, targeting price-sensitive customers for a competitive edge is called cost leadership strategy". Furthermore, CLS with entrepreneurial behaviors can enhance a company's capability to continuously seek cost-saving opportunities, adapt to market changes, and attain SP (Chelliah, Aravindan, & Muthaiyah, 2022). Therefore, According to the perspective of RBV, CLS and EO as the two most valuable resources (Chelliah, Aravindan, & Muthaiyah, 2022) that can collectively improve the SP of the company. Therefore, we hypothesize

H8: Cost Leadership Strategy Moderates Between Entrepreneurial Orientation and Sustainable Performance

Figure 1: Conceptual Framework



3. Research Methodology

3.1. Sample Size

Moreover, the determination and adequacy of the sample size depends on several factors, including the data analysis method, the number of questions posed, and the acceptable margins of statistical error (Baliga, Raut, & Kamble, 2019). Accordingly, Sarstedt, Ringle, and Hair (2021) recommended that the sample size should be "10 times the largest number of structural paths directed at a particular latent construct in a structural model" (Shahzad, Qu, Zafar, Rehman, & Islam, 2020). Similarly, as per Hair and Black (2010), the minimum sample size range for SEM should span from 150 to 400 participants,; recommending at least five samples per variable of the study. In the light of these recommendations, the sample size of current study remained considerably higher than minimum requirements and was adequate for further statistical analysis.

3.2. Measures

This study involved one dependent variable (SP), two independent variables (GIC and GTL), an intervening (EO), and a conditional (CLS) variable. The dependent variable (SP) was assessed using 6 items representing economic, social, and environmental dimensions with a sample item "Our organization achieved annual sales growth"(Akanmu, Hassan, & Bahaudin, 2020; Brent & Labuschagne, 2004). Whereas, the independent variables (GIC, and GTL) were assessed using a 7, and 5 items scales respectively. The sample item of GIC was "Our employees care about the environment" (Marco-Lajara, Zaragoza-Sáez, Martínez-Falcó, & Sánchez-García,

2023), and GTL was "Leaders in my organization inspire subordinates with an environmental plan" (Mittal & Dhar, 2016). Moreover, the moderating variable (CLS) was measured with 4 items, the sample item was "Achieving lower cost of the services than competitors"(Bansal & Bashir, 2023). The mediating variable EO was assessed using five items with a sample item "In general, our organization favors a strong emphasis on R&D, technological leadership, and innovation"(Y. Li, Wei, & Liu, 2010). All these scales were modified according to the requirements of the study. To get more accurate responses from the participants, the survey used a Likert scale with seven points, where 1 represented "strongly disagree" and 7 represented "strongly agree".

3.3. Data Collection

The current study focused on Pakistan's hospitality sector located throughout the country's largest cities. A customized survey form was employed to gather information from the top managers of the hotels (3,4,5-star hotels). Notably, informed consent was received from the respondents and they were guaranteed about the confidentiality of their response. A total of 300 hotels (list generated through multiple reliable platforms) were approached for data collection but the researches were managed to receive 230 responses that were complete from every aspect. Importantly, according to Basit (2022), it is not easy to collect data from whole population due to limited resources and the researchers should select a representative sample from the entire target population.

3.4. Data Analysis

We applied Smart PLS 4.0.9.9 and SEM approach to test the hypotheses (Leguina, 2015). PLS-SEM is considered effective in identifying the association between variables and in elucidating the maximum variance in latent constructs. Multiple researchers including Agapito, Oom do Valle, and da Costa Mendes (2013), and M. Ali, Kan, and Sarstedt (2016), widely preferred Smart PLS because of its capacity to analyze research frameworks that include numerous concepts and indications. Furthermore, Smart PLS has the benefit of managing complex models, handling large sample size and ensuring measurement accuracy (Pantai, 2012).

4. Results

4.1. Measurement Model: Validity and Reliability

The model's initial evaluation in SMART-PLS4.0.9.9 indicated that every factor has a high Cronbach's Alpha value, composite reliability, and AVE, as shown in Table 1. The intrinsic coherence of the estimation framework is acceptable, with composite reliability ranging from 0.823 to 0.896 (Fornell & Larcker, 1981). Moreover, Fornell and Larcker (1981) recommended a minimum level of AVE of 0.5 for acceptable convergent validity. Accordingly, the measurement model demonstrated the acceptable convergent validity, with values of AVE ranging from 0.526 to 0.713, which is an indication that the model has no issues of convergent validity.

Table 1: Reliability Measurement

Construct	Items	Loadings	Ca	CR	AVE
GIC			0.89	0.896	0.603
	GIC1	0.806			
	GIC2	0.780			
	GIC3	0.799			
	GIC4	0.785			
	GIC5	0.773			
	GIC6	0.783			
GTL	GIC7	0.704	0.828	0.83	0.592
	GTL1	0.755			
	GTL2	0.809			
	GTL3	0.773			
	GTL4	0.75			
	GTL5	0.758			
SP			0.819	0.823	0.526
	SP1	0.711			
	SP2	0.665			
	SP3	0.785			
	SP4	0.728			
	SP5	0.78			

EO	SP6	0.673	0.867	0.88	0.655
	EO1	0.683			
	EO2	0.872			
	EO3	0.826			
	EO4	0.817			
	EO5	0.834			
CLS			0.866	0.878	0.713
	CLS1	0.845			
	CLS2	0.801			
	CLS3	0.861			
	CLS4	0.869			

Note: AVE: Average Variance Extracted, CR: Composite Reliability, Ca: Cronbach’s alpha, GIC: Green Intellectual Capital, GTL: Green Transformational Leadership, SP: Sustainable Performance, EO: Entrepreneurial Orientation, CLS: Cost Leadership Strategy

In assessing discriminant validity, we used the HTMT ratio (Henseler, Ringle, & Sarstedt, 2015) and the Fornell–Larcker criterion (Fornell & Larcker, 1981). According to the Fornell–Larcker criterion, the square root of the AVE should exceed the correlation between variables. In our analysis, the square roots of the AVE (values) surpassed the correlation values and thus indicated no issues with discriminant validity. Table 2 illustrated that the discriminant validity was confirmed because all the values were within the acceptable range i.e. 0.844 to 0.725

Table 2: Discriminant Validity (Fornell Larcker Criterion)

	CLS	EO	GIC	GTL	SP
CLS	0.844				
EO	0.647	0.809			
GIC	0.478	0.615	0.776		
GTL	0.499	0.698	0.558	0.769	
SP	0.313	0.579	0.577	0.54	0.725

Note: GIC: Green Intellectual Capital, GTL: Green Transformational Leadership, SP: Sustainable Performance, EO: Entrepreneurial Orientation, CLS: Cost Leadership Strategy

Additionally, we investigated the HTMT ratio to evaluate discriminant validity (K. Ali, Johl, Muneer, Alwadain, & Ali, 2022; Hair, Risher, Sarstedt, & Ringle, 2019; Henseler, Ringle, & Sarstedt, 2015). The HTMT value is observed to be smaller than 0.85 (Henseler, Ringle, & Sarstedt, 2015). See Table 3 for more details.

Table 3: Hetrotrait-monotrait ratio

	GIC	GTL	SP	EO	CLS
GIC					
GTL	0.646				
SP	0.664	0.651			
EO	0.689	0.819	0.698		
CLS	0.544	0.528	0.367	0.755	

Note: GIC: Green Intellectual Capital, GTL: Green Transformational Leadership, SP: Sustainable Performance, EO: Entrepreneurial Orientation, CLS: Cost Leadership Strategy

Moreover, we examined the variance inflation factor (VIF) in order to make sure that the model has no issues of multi-collinearity. Collinearity problems may arise when the VIF surpasses the value of 5 (Hernández-Perlines & Ibarra Cisneros, 2018). The highest value was 3.185 (EO->SP) as presented in Table 4. Consequently, it was discovered that the model has no collinearity problems.

Table 4: Collinearity

Hypothesis	VIF
CLS -> SP	2.895
EO -> SP	3.185
GIC -> EO	1.451
GIC -> SP	1.892
GTL -> EO	1.451
GTL -> SP	2.058

Note: VIF: Variance Inflation Factor, GIC: Green Intellectual Capital, GTL: Green Transformational Leadership, SP: Sustainable Performance, EO: Entrepreneurial Orientation, CLS: Cost Leadership Strategy

4.2. Structural Model

To test the hypotheses, this research used the bootstrapping method with 5,000 samples. The "t" and "p" values become crucial for confirming results. The results for direct associations are presented in Table 5. The results of H1 supported our assumptions ($\beta = 0.213$), ($t = 2.674$), and ($p = 0.008$), which validated that GIC had a favorable effect on SP. Similarly, the results of H2 ($\beta = 0.137$), ($t = 1.599$), and ($p = 0.11$) confirmed that GTL had a favorable impact on SP. These findings confirmed that H2 was supported.

Table 5: Direct Effects

Hypothesis	Paths	β	P-value	T-value	Result
H1	GIC—SP	0.213	0.008	2.674	Supported
H2	GTL—SP	0.137	0.11	1.599	Not supported
H3	EO—SP	0.565	0	4.089	Supported
H4	GIC—EO	0.343	0.001	3.344	Supported
H5	GTL—EO	0.501	0	4.832	Supported

Note: β -Value: Standardize path coefficients, GIC: Green Intellectual Capital, GTL: Green Transformational Leadership, SP: Sustainable Performance, EO: Entrepreneurial Orientation, CLS: Cost Leadership Strategy

The outcomes of H3 ($\beta = 0.565$, $t = 4.089$, $p = 0.00$) revealed that EO significantly predicted SP. Therefore, H3 was confirmed. Moreover, the findings of H4 ($\beta = 3.343$, $t = 3.344$, $p = 0.001$) confirmed that GIC had a favorable impact on EO and thus H4 was supported. Furthermore, the findings of H5 ($\beta = 0.501$, $t = 4.832$, $p = 0.00$) supported our assumptions and therefore, H5 was also supported.

Table 6: Mediation-Moderation Effect

Hypothesis	Paths	B	P-value	T-Value	CI --- 97%	Result
H6	GIC--EO—SP	0.191	0.006	2.766	.07---.337	Supported
H7	GTL--EO—SP	0.285	0.003	2.965	.109---0.49	Supported
H8	CLS--EO—SP	0.177	0.002	3.209		Supported

Note: β -Value: Standardize path coefficients, CI: Confidence Interval, GIC: Green Intellectual Capital, GTL: Green Transformational Leadership, SP: Sustainable Performance, EO: Entrepreneurial Orientation, CLS: Cost Leadership Strategy

Next, we evaluated the mediating effect between GIC and SP, GTL and SP, as shown in Table 6. The analysis indicated that EO significantly mediated between GIC and SP ($\beta = 0.191$, $t = 2.766$, $p = 0.006$), and GTL—SP ($\beta = 0.285$, $t = 2.965$, $p = 0.003$). With 5,000 bootstrap samples, the technique produced a 95% bias-corrected confidence interval (CI). Accordingly, 95% CI of the GIC-EO-SP remained [ULCI=0.07, LLCI=0.337] and the GTL-EO-SP remained [ULCI=0.109, LLCI=0.49]. the values indicated that ULCI and LLCI did not include zero. Thus H6 & H7 were supported. Finally, the moderating effect (interaction effect, i.e., entrepreneurial orientation*cost leadership) on the association of EO and SP was also found to be significant and positive ($\beta = 0.177$, $t = 3.209$, $p = 0.002$). Hence, H8 also supported our prediction.

5. Discussions

This research utilized the theoretical lens of RBV to evaluate the role of GTL, GIC, EO, and CLS in achieving sustainability. Accordingly, entrepreneurial orientation was examined as a mediator between GIC, GTL (two independent variables) and SP (dependent variable), whereas, the role of CLS was investigated as a conditional variable on the relationship of EO and SP. Importantly, this study represented a groundbreaking initiative in the hospitality sector and examined the interplay of GIC, GTL, SP, EO, and CLS. The first purpose of the research was to discover the connection between GIC and SP. The study revealed a positive association between GIC and SP. These results were consistent with Ying and, Omar et al. (2019). Conversely, previous studies by M. S. Shah (2022), Yusoff et al. (2019), highlighted an insignificant contribution of GIC towards SP. However, results of our study demonstrated that GIC enhances SP by integrating environmental knowledge into organizational strategies, fostering innovation, efficiency, and compliance, thereby improving resource management and corporate reputation. Moreover, organizations with high GIC have employees well-versed in green practices, effective environmental management processes, and strong relationships with sustainability-oriented stakeholders. For eco-friendly products and processes, these foundations (established by GIC) enable firms to develop, implement, and optimize resource use, and reduce environmental impact business operations. Consequently, GIC helps organizations achieve superior economic,

environmental, and social performance, thereby enhancing their overall SP. Similarly, it is argued that management's approach towards GIC can lead to significant benefits for businesses regarding their long-term success. Furthermore, it can act as a shield against environmental risks, enabling proactive measures to mitigate potential disruptions. Organizations with robust GIC not only thrive financially but also contribute significantly to a healthier planet, thus ensuring their long-term relevance and impact. Hence, it was validated, that "GIC has a positive and significant influence on SP".

Secondly, to our surprise, the results demonstrated an insignificant impact of GTL on SP. Notably, Shoaib et al. (2022) also discovered same outcomes and confirmed that the effect of GTL on SP was insignificant. In contrast, Rehman, Bhatti, and Chaudhry (2019) proved that GTL improved SP. However, our results indicate that a leader who adopted environmentally conscious and transformative practices might not necessarily lead to improved SP. While such leadership styles have promoted environmental consciousness and inspired organizational change toward SP, several factors have limited their efficacy. For example, Challenges in translating vision into action, resistance to change, and competing organizational priorities have impeded the effective implementation of green initiatives. Moreover, the complexities of SP, impacted by a myriad of both internal and external factors, have overshadowed the actual impact of leadership efforts. Additionally, the time lag between implementing green strategies and realizing measurable outcomes has obscured the immediate effects of leadership actions. Thus, it was confirmed that "GTL has an insignificant effect on SP".

The third aim was to investigate the direct effect of EO on SP. Results of the study indicated that EO significantly predicted SP. Similarly, earlier research suggested that manufacturers used EO to achieve higher growth despite the challenging business climate. However, studies by Akomea et al. (2022), and Shrivastava and Tamvada (2019) reported an insignificant relationship between EO and SP. Nonetheless, can significantly help organizations to anticipate and adapt to environmental and social trends, comply with regulations, and meet stakeholder expectations. As a result, organizations with strong EO tend to achieve better SP, thereby enhancing their overall sustainability. It is important to highlight here that entrepreneurs' willingness to take calculated risks has allowed them to explore new environmentally friendly technologies and business models, gaining a competitive edge while reducing ecological footprints. Moreover, their agility and adaptability have enabled them to quickly respond to sustainability challenges, aligning business goals with environmental stewardship. Overall, the EO has significantly influenced SP by driving innovation, risk-taking, and proactive responses to environmental concerns, positioning organizations for long-term success in sustainability. However, it was observed that hotels that cultivated an entrepreneurial culture and empowered their employees were more likely to achieve SP. Hence, it was confirmed that "EO has a favorable and significantly influence SP".

The fourth objective was to identify the association between GIC and EO and the results demonstrated a positive link between the two. These findings were supported by some recent studies (Majali et al., 2022; Poblete & Mandakovic, 2021). In contrast, some studies proved an insignificant relationship (Hanifah et al., 2022; Yaseen et al., 2023) that stem from complexities in integration, conflicting priorities, resistance to change, and inadequate measurement frameworks. However, organizations with high GIC enhance their EO by leveraging employees' green knowledge and skills, effective environmental management processes, and strong stakeholder relationships. This foundation fosters innovation, proactiveness in responding to environmental trends, and risk-taking in green technologies and new markets. Therefore, it is argued here that GIC drive organizational EO, catalyzing innovation and proactive behavior. They proved to be crucial in shaping the organizational culture towards EO (Yu et al., 2022). Therefore, it was proved that "GIC has a positive and significant effect on EO".

Fifth, our investigation confirmed the important relationship between GTL and EO. i.e., supported by previous researches (Dapper, 2019; Dzomonda, Fatoki, & Oni, 2017; Harsanto & Roelfsema, 2015). Moreover, according to Verma and Kumar (2022), GTL can create a breakthrough the environment that fosters innovation. This means that leaders prioritizing environmental sustainability tend to cultivate an innovative culture, risk-taking, and proactive behavior within the organization. Their emphasis on continuous learning and adaptation has enabled the employees of hotels to navigate through complex environmental challenges while seizing competitive advantages. Thus, the influence of GTL extended beyond mere compliance

with environmental regulations, driving a fundamental shift towards EO and SP. Hence, it was clear that "GTL has a positive and significant effect on EO".

Sixth, the current investigation indicated that EO positively mediated between GIC and SP. Accordingly, a study by W. Li et al. (2023) studied this relationship in the manufacturing industry of China. Hence, the outcomes of our investigation emphasized how important it was to deliberately match intellectual capital with an entrepreneurial mindset to achieve SP. An organization that achieved this alignment attracted environmentally concerned customers and had an edge over rivals. It is believed that EO can enhance this relationship by encouraging organizations to leverage their GIC through fostering an innovative culture, anticipating and acting on emerging environmental trends, and supporting calculated risks for investing in green technologies. Similarly, hotels with a higher level of GIC can achieve better SP if they also possess a strong entrepreneurial culture which acts as a catalyst between green capabilities and performance outcomes. This can be helpful in today's dynamic business environment. Moreover, it was established that implementing green techniques not only benefited the environment but also improved the profitability of hotel industry by optimizing resource use and reducing operational costs. Therefore, it was confirmed that "EO significantly mediated between GIC and SP."

Seventh, our research indicated that EO positively mediated between GTL and SP. These outcomes were aligned with a study undertaken in the SME sector by Majali et al. (2022). The findings reiterated the value of effective leadership in spurring the development of novel concepts so that companies come up with a competitive edge over their rivals and enhance their SP. The study highlighted the crucial function that leaders perform in cultivating an innovative culture in their establishments, clearing the path for sustained prosperity and expansion. However, GTL created a supportive environment that encouraged employees to engage in sustainable practices and think creatively about environmental challenges. This leadership style fostered a culture of innovation and proactivity, aligned closely with the dimensions of EO. By promoting EO, GTL empowered their teams to develop and implement innovative solutions for SP. Moreover, EO further supported this process by encouraging hotels to take calculated risks, invest in green technologies, and explore new market opportunities with eco-friendly products. Therefore, it was authenticated that "EO significantly mediated between GTL and SP".

Finally, the ongoing investigation suggested that the CLS significantly moderated the link between EO and SP. These findings were confirmed by Lidasan and Rahman (2018), as they highlighted that an organization's competitive strategy can play an important role to promote SP (Lidasan & Rahman, 2018). Moreover, the research demonstrated that hotels should put more efforts to foster EO and implement CLS in order to achieve SP. Because hoteliers that adopted CLS were better able to achieve efficiency and cost reduction, which amplified EO's impact on SP. Moreover, successful implementation of CLS significantly benefited the waste reduction, optimization of resources, and improved energy efficiency that led to cost savings and better SP. Therefore, it was concluded that "CLS significantly moderated the EO and SP link".

5.1. Theoretical Implications

This study has important ramifications for expanding the knowledge of SP in the hospitality sector. Our research builds upon the RBV framework proposed by Barney (1991) to investigate the factors that help the organizational greening. Our study contributed to the understanding of SP by investigating the direct, indirect, and conditional links between GTL, GIC, and SP.

Specifically, we found that GTL influenced EO by infusing environmentally sustainable practices into key entrepreneurial areas. Moreover, this strategic alignment with the RBV highlights the importance of unique and valuable environmental resources. These resources are key drivers that shape the EO and actions within the organization. Interestingly, this is one of the few empirical studies that looked at how GTL affects non-green workplace outcomes like EO. It has been noticed that EO have the strong connection between GTL and business outcomes to support the business case for GTL (Verma & Kumar, 2022). Therefore, this study offered new insights and added to the existing knowledge on leadership, especially GTL.

Similarly, we found that the link between GTL, GIC, and SP were mediated by EO. RBV theory suggested that EO, and GTL, are strategic resources, and efficient management of these resources lead to SP. However, organizations, including hotels, can attain superior SP by utilizing the distinctive capabilities of EO and incorporating SP. This aligns with the principles of RBV and promotes long-term success.

Likewise, current study highlighted the relevance of hotels' GIC, for gaining a rivalry edge. EO played a pivotal role in effectively leveraging GIC, thereby enhancing SP. Furthermore, RBV highlighted the importance of distinctive and valuable environmental resources as key drivers shaping the entrepreneurial mindset and actions within the organization. Notably, recent studies by S. Z. A. Shah and Ahmad (2019), and Zaki et al. (2023) also confirmed that EO facilitated the development of effective solutions using GIC, contributing to improved adoption of sustainable practices.

Furthermore, we also examined the impact of CLS as a moderator on the EO and SP link. The CLS balanced the EO and SP by integrating sustainable practices in a financially prudent manner. This findings of the study demonstrated that CLS with EO (Anwar & Shah, 2021) led to better SP (Anwar & Shah, 2021). Thus, our study contributed to the understanding that CLS can indeed have a noteworthy impact on the SP of hotels which proved to be a unique contribution of its nature.

5.2. Practical Implications

Our research provided several key suggestions to leaders, managers, and policymakers to effectively implement EO and leverage it to achieve superior SP. Specifically, our research offered valuable insights for the hotel industry regarding GIC, GTL, EO, and CLS that can impact SP. With a growing concern for SP in the current business landscape, the results of this study may be used in less developed nations to encourage the conservation of energy and water while lowering emissions, waste, and the use of conventional materials. The findings can be valuable for policymakers seeking to implement measures that mitigate waste and minimize penalties for environmental incidents. Ultimately, improved citizen, workers health and an increased overall customer satisfaction are what owners, managers, and legislators stand to benefit from.

Similarly, it is suggested that companies and hotels should develop GIC and provide financial and non-financial incentives to staff members who promote environmentally friendly conduct. Managers should ask staff members for advice on how to resolve long-term performance problems to further inspire them. Similarly, utilizing GIC to carry out these tasks can greatly improve SP. Furthermore, as per the findings of the study, SP is also affected by GTL in both direct and indirect ways. This demonstrated that how owners and general managers need to understand the significance of GTL. Moreover, EO drives innovation and SP that fosters long-term value creation and corporate responsibility. Therefore, policymakers can influence these dynamics by shaping regulations that incentivize innovation, responsible practices, and a supportive business environment.

In a similar vein, managers who wish to see greater returns on their sustainability efforts can foster an entrepreneurial mindset by taking advantage of market and technical possibilities to green their operations and spur green development. Moreover, to achieve SP, managers and policymakers should directly prioritize operational efficiency and cost reduction under the cost leadership strategy. By using this strategy, businesses are expected to enjoy greater competitive advantage by providing their services at a lower price than their competitors. Simultaneously, they should allocate resources for innovation, environmental considerations, and regulatory compliance, thus ensuring a balanced approach that aligns cost efficiency with long-term objectives.

5.3. Limitations and Future Recommendations

Despite making valuable contribution to the body of knowledge, the study also had few limitations that should be addressed in the future researches. First of all, the present research was done in a developing country, Pakistan. Thus, to improve generalizability, we propose that additional research should be conducted in other developing and developed nations. Second, the data was gathered from the managers of hotels, therefore, we urge future researchers to collect data from employees to understand environmental their beliefs and values. Moreover, this study setting was cross-sectional. Future studies can take a longitudinal approach to understand the

individual and organizational outcomes. Fourth, the current study examined GTL as a unidimensional variable. Future studies might also look into the dimensions of GTL to have a deeper understanding of its impact on SP. Fifth, we employed CLS as a moderator and EO as an intervening variable. Scholars in future can examine entrepreneurial ability, GHRM, and green innovation as intermediary factors. Likewise, future researchers should focus on differentiated strategy investigate and understand its buffering role.

6. Conclusion

This study employed the RBV theory to delved into sustainability within the hospitality sector, focusing on GIC, GTL, EO, and CLS. GIC and GTL were the independent variables, whereas, EO served as a mediating variable and SP was the dependent variable. This research was significant because it explored how various factors interact with each other, particularly within the hospitality industry, and emphasized the urgency of continuing efforts to tackle sustainability issues in the sector. The results showed that GIC had a favorable impact on SP, while the effect of GLT was found to be insignificant. Additionally, EO mediated the relationship between GIC and SP, and also between GTL and SP. Moreover, the CLS positively moderated the relationship of EO and SP. Finally, the study highlighted significant recommendations for policymakers and future research areas for scholars.

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