

THE ROLE OF ESG PERFORMANCE IN LINKING DIGITAL LEADERSHIP AND ORGANIZATIONAL SUSTAINABILITY: A CONCEPTUAL FRAMEWORK AND POLICY IMPLICATIONS

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Abstract

Increased complexity of the global business environment has compelled organizations to seek ways to incorporate sustainability, governance and technological leadership in cohesive strategic systems. In this conceptual paper, the mediating role of Environmental, Social and Governance (ESG) Performance will be reviewed upon the relationship between Digital Leadership (DL) and Green Intellectual capital (GIC) on the Organizational Sustainability (OS). This paper relies on the Dynamic Capabilities Theory, Natural Resource-Based View (NRBV), and the Stakeholder Theory to come up with a theoretically based framework, which consists of seven propositions. The paper contends that Digital Leadership and Green Intellectual Capital have both direct and indirect effect on Organization Sustainability via ESG Performance. The framework helps in the rising intersection of digital transformation, green management and sustainability research through providing a structured theoretical framework in future empirical research. There are policy implications, which are discussed in particular reference to organizational leaders, policymakers, and regulators who may want to use digital and green capabilities in achieving sustainable organizational results.

Keywords: Digital Leadership, Green Intellectual Capital, ESG Performance, Organizational Sustainability, Conceptual Framework, Policy Implications

Introduction

Organizations today are under more pressure than ever before to balance both economic performance and social responsibility and environmental stewardship due to the high rate of digital transformation and the increasing environmental demands. Organizational Sustainability (OS) has become more than an environmental compliance but an overall ability to create economic wealth, safeguard the ecological resources and promote social well-being all at the same time (Broadstock et al., 2023). However, realizing true and sustainable sustainability is a major issue to organizations in the dynamic, complex and competitive environments.

Coexisting along with the sustainability imperative, Digital Leadership (DL) has become a key catalyst of organizational change. Digital literacy, strategic digital vision, and technological capability enable leaders to plan organizational responses to the environmental and social challenges more effectively (Tagscherer & Carbon 2023). Digital technologies do not only improve the efficiencies in operations, but also give organizations the tools to monitor, report and control their environmental, social and governance (ESG) practices (Zameer et al. 2020). Although there is an increased academic understanding of the strategic importance of digital leadership (Tagscherer & Carbon 2023), its direct contribution to the formation of ESG performance (Wang et al., 2023) and, consequently, organizational sustainability has not been explored theoretically yet.

Likewise, Green Intellectual Capital (GIC) which includes a collection of green human capital, green structural capital and green relational capital has been reported to be an important

organizational resource that enables the attainment of environmental performance and competitive advantage (Chen, 2008). Companies developing green knowledge, skills, and networks of collaborations can be better placed to achieve high levels of compliance with environmental standards, at the same time generating value to the stakeholders (Chen, 2008). Nevertheless, the conceptual connection between GIC and a larger least outcome of organizational sustainability, especially through the mediation of ESG performance, should be developed further conceptually.

The concept of Environmental, Social, and Governance (ESG) performance has become very popular amongst researchers, practitioners, and regulators as a broad concept of assessing organizational behavior along interdependent lines of environmental stewardship, social responsibility, and governance integrity (Arnou & Hammarstedt, 2021). ESG performance is no longer seen only as a compliance requirement but as a strategic tool that can be used by organizations to become more viable in the long run and gain the trust of stakeholders (Authority, 2021). However, the channels with which ESG performance links antecedent organizational capabilities, like digital leadership and green intellectual capital, to sustainability outcomes are conceptually divided.

The paper aims to fill this gap by coming up with a conceptual framework, which is developed based on theoretical knowledge that places ESG Performance as a mediating variable between Digital Leadership, Green Intellectual Capital, and Organizational Sustainability. An integrative review of the theoretical perspectives and the literature based on empirical data derives seven formal propositions. The paper also addresses policy implications of the proposed framework to leaders of the organization, practitioners of sustainability, and regulatory organizations.

Gap of the Study

The existing literature has discussed digital leadership to green intellectual capital, ESG performance, and organizational sustainability on a rather detached and disperse manner. Some studies have examined the direct impact of digital leadership on organizational performance and change (Zameer et al. 2020), whereas others have studied the impact of green intellectual capital on environmental management and competitive edge (Chen, 2008; Wang et al. 2023). Increased research conducted has also discussed ESG performance as a consequence of the organizational practices and a predictor of financial and sustainability results (Arnou & Hammarstedt, 2021; Authority, 2021).

Regardless, as far as the authors are aware, no research has investigated Digital Leadership and Green Intellectual Capital as two antecedents of ESG Performance at the same time and no research theoretically proposes ESG Performance as an intervening variable in which both antecedents impact Organizational Sustainability. The theoretical gap is large as it deprives an answer to the critical question on how organizations can strategically use the power of digital capabilities and green knowledge resources to improve their ESG profiles and, therefore, their long-term sustainability performance.

Moreover, the previous research has mainly used the empirical design without necessarily having a clear theoretical framework in which Dynamic Capabilities Theory, Natural Resource-Based View, and Stakeholder Theory are incorporated into a single explanatory framework. This gap is filled through the current research which formulates a theoretical construct that gives theoretical consistency to the correlation between Digital Leadership, Green Intellectual Capital, ESG Performance and Organizational Sustainability, thus, establishing the basis through which future empirical research can be undertaken.

Theoretical Foundation

Dynamic Capabilities Theory

The Dynamic Capabilities Theory, which is developed by Kero & Bogale (2023), states that organizations create competitive advantage through development of the ability to sense, seize, and rearrange areas of internal and external resources in reaction to a changing environment. Digital Leadership in the current framework is a dynamic capability, which helps organizations to feel the new environmental and social threats, catch the emerging digital technology options, and reshape organizational operations in line with ESG performance demands. Digital executives with technological vision and innovation skills are in a unique position to steer the organizational change to long-term sustainable results (Tagscherer & Carbon 2023).

Natural Resource-Based View (NRBV)

Hart (1995) extended the conventional Resource-Based View by grounding organizational competitive advantage in environment-linked capabilities: pollution prevention, product stewardship, and sustainable development. Green Intellectual Capital — comprising green human capital, green structural capital, and green relational capital — aligns directly with these three strategic capabilities (Chen, 2008). Organizations endowed with rich green intellectual capital leverage environmentally grounded, difficult-to-replicate capabilities to generate superior ESG performance outcomes. These environment-oriented capability investments directly contribute to long-term organizational sustainability, creating enduring competitive differentiation rooted in ecological responsibility (Hart, 1995; Wang et al. 2023).

Stakeholder Theory

The Stakeholder Theory by Freeman (1984) argues that to achieve long-term organizational legitimacy and sustainability, organizations should take care of the interests of the wide variety of stakeholders such as employees, customers, investors, regulators, and communities. ESG Performance is an actual expression of stakeholder-perceptive organizational behavior, which encapsulates the idea of a given organization with respect and focus on environmental responsibility, social equality, and governance integrity (Arnou and Hammarstedt, 2021). Digital Leadership is an effective way to facilitate stakeholder engagement because of open digital communication and accountability mechanisms based on data, whereas Green Intellectual Capital helps organizations to address the environmental and social demands of different groups of stakeholders (Bonnafeous-Boucher & Rendtorff, 2016).

Literature Review and Propositions

Digital Leadership and ESG Performance

Technology Adoption and Environmental Performance

Technology Adoption is a corner stone aspect of Digital Leadership which directly equips organizations with better performance when it comes to environmental performance. More sophisticated digital technologies such as the Internet of Things (IoT), artificial intelligence (AI), and the use of big data analytics give companies the potential to track energy use and minimise carbon emissions and waste disposal operations (Tagscherer & Carbon 2023). Organizations that are digitally led and invest strategically in green technologies show better capabilities to track and report on environmental performance indicators enhancing the environmental ESG profile of organizations.

To date, the empirical studies indicate that the technology based environmental monitoring systems can greatly enhance adherence of an organization to environmental regulations and voluntary sustainability standards (Zameer et al., 2020). Leaders that champion technology adoption in their digital strategic agenda develop an organizational environment that facilitates systematic performance enhancement in the environment, which is a key element of ESG performance.

Digital Vision and Social Performance

Digital Vision - the ability of leaders to design and express an inspiring strategic direction to digital transformation is important in influencing social performance in organizations. When leaders have a clear digital vision, they are in a better position to formulate and execute digitally enabled human resource practices, stakeholder engagement platforms, and community outreach programs that would improve the delivery of social performance outcomes (Tagscherer & Carbon 2023). Digital communication technologies enable open labor procedures, engaging community and strong human rights observance - all these are primary aspects of social ESG performance.

Also, digital leaders who are visionary encourage organizational cultures that appreciate diversity, ethical behavior, and well-being of employees, thus making an environment that facilitates positive social performance results (Zameer et al. 2020). The correspondence of digital vision and social responsibility imperatives, therefore, represents a very important channel that digital leadership can affect ESG performance.

Digital Capability and Governance Performance

Digital Capability - the technical and managerial skills needed to utilize digital tools to their advantage are especially consequential to governance performance. Organization that are digitally capable have the technological base to have strong corporate governance systems such as real-time financial reporting frameworks, automated compliance reporting systems, and open board communication systems. These competencies assist in the anti-corruption practices, board diversity and independence and ethical governance - the core aspects of governance ESG performance.

In addition, digital capability boosts organizational transparency and accountability which are the pre-condition requirements to good performance in governance (Zameer et al. 2020). Companies with digitally competent leaders are therefore in a better position to have high governance ESG scores which adds to their overall ESG performance profile.

(P1): Digital Leadership positively influences ESG Performance in organizations.

Green Intellectual Capital and ESG Performance

Green Human Capital and Environmental Performance

The term Green Human Capital can be defined as the levels of understanding, expertise, feelings and skills of the members of an organization that are related to the environment (Chen, 2008). Companies that have employees with green knowledge and environmental awareness would be in a better position to recognize and adopt energy efficient programs, minimize carbon footprint, and create efficient waste management programs, which are the fundamental elements of environmental ESG performance. Green human capital helps organizations to incorporate environmental awareness in their day-to-day operational activities, which gives rise to environmental consciousness culture that continues to enhance environmental performance in the long term.

Some studies have established that organizations that invest in green human capital development, i.e. environmental training, green skill development and recruitment based on sustainability have better environmental performance results (Wang et al. 2023). These environmental performance benefits translate to positive environmental ESG rating directly, which makes the organization more sustainable.

Green Structural Capital and Social Performance

Green Structural Capital includes systems, processes, policies, structures of an organization that uphold the sustainability of the environment and social fabric (Chen, 2008). Companies that have well-built green structural capitals have the institutional framework of sustainability reporting systems, environmental management systems, socially responsible procurement policies to achieve consistent social performance results. These structural enablers support

community engagement program, fair labor and human rights monitoring, thus improve social ESG performance.

Additionally, the green structural capital facilitates institutionalization of stakeholder responsive social practices that ensure that in social performance, it is not individual agency but rather organizational habit (Wang et al. 2023). This is a structural embeddedness that is a key requirement to maintaining social ESG performance improvement.

Green Relational Capital and Governance Performance

Green Relational Capital is the knowledge and networks of environmental activities, as well as collaborative relationships, which organizations have with external parties - suppliers, regulators, industry associations, and community organizations (Chen, 2008). Strong green relational capital is associated with the ability of organizations to access external environmental knowledge, regulatory savvy and cooperative governance systems that can increase the governance ESG performance of organizations. Green relational networks help to adopt best practices governance standards, anti-corruption measures and board diversity programs.

In addition, green relational capital promotes organizational legitimacy to regulatory authorities and the institutional investors, establishing incentives to increase the quality of governance transparency and accountability (Wang et al., 2023). These relational processes directly lead to the improvement in the performance of governance, which supports the overall profile of ESG of the company.

(P2): *There is positive impact of Green Intellectual Capital on the ESG Performance in organizations.*

ESG Performance and Organizational Sustainability

The connection between ESG Performance and Organizational Sustainability has theoretical foundation on both Stakeholder Theory and Dynamic Capabilities perspective. The high performance of ESG in organizations signifies the credible intentions of environmental responsibilities, social accountability, and integrity in governance, which creates legitimacy, trust and long-term backing of stakeholders (Freeman, 1984). Such benefits of stakeholders-relationships have a direct bearing on an organizational sustainability in terms of obtaining social license to operate, attracting investors who are impact-oriented and minimizing the risk of regulations ((Broadstock et al., 2023).

The environmental performance gains such as energy efficiency, and carbon footprint reduction, and waste minimization directly lower costs of operation and the dependency of resources and increase economic sustainability (Broadstock et al., 2023). The social performance accomplishments such as better labor practices and community relations and human rights adherence contribute to building employee affections, ties with the community, and brand image, which are essential factors enabling a firm to survive over the long run (Acquah et al., 2023). The improvement of governance performance anti-corruption practices, board diversity, and ethical transparency decrease the risk of governance, attract institutional investment, and build organizational resilience (Authority, 2021).

All these ESG performance dimensions, together, form a sustainability ecosystem where environmental, social, and governance performance enhancements mutually and synergistically improve the outcomes of organizational sustainability (Arnou & Hammarstedt, 2021).

(P3): *ESG Performance positively influences Organizational Sustainability.*

Direct Effects on Organizational Sustainability

Digital Leadership and Organizational Sustainability

In addition to the indirect impact via ESG Performance, Digital Leadership creates a positive impact on Organizational Sustainability. Systemic organizational change that alters operations, innovation ability, and strategic responsiveness are digitally enabled capabilities that are

inherently significant in long term organizational sustainability (Tagscherer & Carbon 2023). Visionary digital leaders drive digital transformation efforts that develop new streams of value, better utilize resources, and develop adaptable organizational capabilities that help them maintain a competitive edge in the long term.

Additionally, transformational leaders who incorporate the sustainability aspect in terms of digital transformation agenda establish organizational cultures and systems that have a natural tendency towards value generation in the long-term perspective (Zameer et al. 2020). This systemic and cultural orientation of sustainability is a direct route in which digital leadership can impact organizational sustainability regardless of its impact on ESG performance.

(P4): *Digital Leadership positively and directly influences Organizational Sustainability.*

Green Intellectual Capital and Organizational Sustainability

Green Intellectual Capital has also positive, but not mediated impact on Organizational Sustainability. Organizations that have green human, structural and relational capital have the knowledge base resources, institutional capacity and external network that they utilize in the planning and realization of long term environmental and financial value creating business strategies (Chen, 2008). Green intellectual capital helps organizations to be sustainable in innovation, creating products and services that are green and green supply chains, i.e. strategic capabilities that have direct impacts on organizational sustainability.

In addition, green intellectual capital is a source of sustainable competitive differentiation - a VRIN resource according to the definition of the Barney (1991) - that enables organizations to outcompete their rivals on the sustainability aspects, hence ensuring long-term organizational survivability (Kero & Bogale 2023). This competitive sustainability advantage is a direct channel through which the green intellectual capital helps to improve organizational sustainability outcomes.

(P5): *Green Intellectual Capital positively and directly influences Organizational Sustainability.*

Mediation: ESG Performance as a Linking Mechanism

The key theoretical contribution of the current paper is that it conceptualizes the ESG Performance as a mediator mechanism that mediates the impacts of Digital Leadership and Green Intellectual Capital on the Organizational Sustainability. Digital leadership and green intellectual capital in the Dynamic Capabilities perspective act as an organizationally based capability that produces the outcome of ESG performance, which subsequently leads to excellent sustainability performance. This intermediary process is an indication of a conceptually consistent set of contact mobilization; capability use and sustainability result creation.

ESG Performance is a measurable, observable mid-range level outcome, which embodies the sustainability-related implications of digital leadership practices and green intellectual capital investments. Through high ESG performance, the organization conveys to its stakeholders; investors, regulators, and communities, that it is committed to sustainable behaviour which creates the relational capital and institutional legitimacy required to sustain the organization in the long term (Freeman, 1984; (Broadstock et al., 2023).

(P6): *ESG Performance mediates the relationship between Digital Leadership and Organizational Sustainability, such that Digital Leadership enhances Organizational Sustainability through improved ESG practices.*

(P7): *ESG Performance mediates the relationship between Green Intellectual Capital and Organizational Sustainability, such that Green Intellectual Capital enhances Organizational Sustainability through improved ESG practices.*

Conceptual Framework

Figure 1 shows the conceptual framework, which was developed during this research. According to the framework, DL and GIC are independent variables that positively affect Organizational Sustainability (OS) directly (P4, P5) and indirectly via the mediating variable ESG Performance (P6, P7). ESG Performance is a three-dimensional concept, which consists of three aspects: EP, SP, and GP, all of which are influenced by the antecedent capabilities of DL and GIC (P1, P2). The direct relationship between ESG Performance and OS (P3) indicates the long-established empirical connection between ESG performance and long-term viability of the organization.

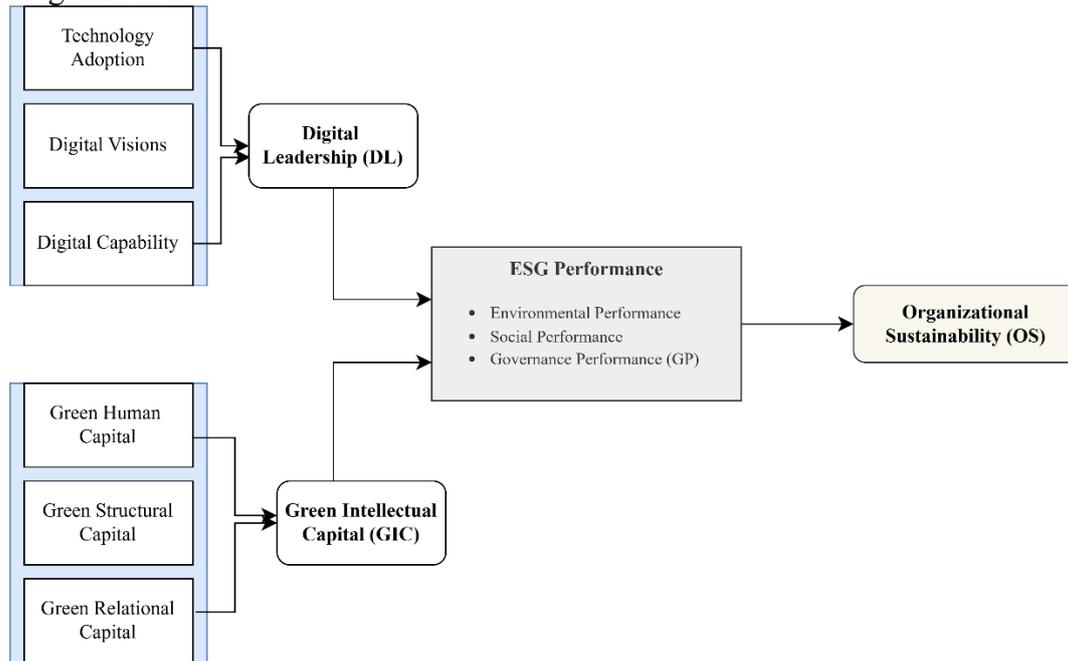


Figure 1: Conceptual Framework

Digital Leadership has been defined on three dimensions which include Technology Adoption, Digital Vision and Digital Capability. Green Intellectual Capital is operationalized in Green Human Capital, Green Structural Capital and Green Relational Capital. This multi-dimensional operationalization captures the theory and empirical literature on both constructs because it is complex and multi-faceted, which is appropriate (Chen, 2008; Tagscherer & Carbon 2023).

The offered conceptual model contributes to the overlapping literature on digital leadership, green management, ESG performance, and organizational sustainability in a number of important theoretical ways. To begin with, theorizing the ESG Performance as a mediating process, the framework offers a theoretically consistent description of how digital leadership and green intellectual capital can be converted into the sustainability outcomes of the organization. The identified theoretical gap that is addressed by the presented mediating logic is an important finding in the existing literature and provides a simplistic but broad model of the dynamics shaping sustainability in organizations.

Second, the framework expands the Dynamic Capabilities Theory by showing how digital leadership serves as a dynamic capability that helps organizations to sense, seize, and reconfigure resources to achieve ESG performance goals. This addition broadens the conceptual base of the Dynamic Capabilities Theory by directly relating it to sustainability and ESG performance results - areas that have been accorded minimal consideration in the dynamic capabilities literature (Kero & Bogale, 2023).

Third, the framework adds value to the NRBV by placing Green Intellectual Capital as a VRIN resource with both direct sustainability benefits and indirect sustainability benefits in the form

of ESG performance gains. This two-way channeled reasoning is direct and mediated, which is the multivariate value-creation processes involved in any investment in green intellectual capital (Kero & Bogale 2023; Chen, 2008).

Methodology

Fourth, the framework operationalizes Stakeholder Theory when it comes to defining ESG Performance as the key instrument whereby the organizations show their responsiveness to a variety of stakeholder expectations. By making the abstract stakeholder engagement logic of the theory proposed by Freeman (1984) operationalized to a set of tangible and measurable organizational outcomes, this operationalization supports the increased power of the theory in the sustainability setting in terms of explanatory power (Bonnafeous-Boucher & Rendtorff, 2016).

Policy Implications

(a) Implications for Organizational Leaders

The suggested framework has significant consequences to the organizational leaders who have to navigate the multifaceted landscape of digital transformation and sustainability management. It is recommended that leaders design and present logical digital visions that clearly include ESG performance goals as strategic objectives. Organizational leaders can use technological capabilities to keep track of environmental, social, and governance performance by combining digital transformation agendas with ESG performance goals (Tagscherer & Carbon 2023).

Moreover, leaders are to make a strategic investment in building a green intellectual capital especially with the help of green human capital development programs, sustainable organizational processes, and green stakeholder relationship management as a preponderant enabler of excellent ESG performance. Companies that consider green intellectual capital as part of their strategic capital, instead of a compliance cost are in a better position to enjoy true and long-lasting organizational sustainability (Chen, 2008).

(b) Implications for Policymakers and Regulators

To policy makers and regulative authorities, the framework indicates that the performance standards of ESG and reporting should be structured in such a way that it can encourage organizational investments in digital leadership capability and green intellectual capital. Established regulatory frameworks where organizations are rewarded upon adopting effective digital governance practices, transparency in ESG reporting, and quantifiable green knowledge investments would ensure environments where the virtuous cycle of capability building, ESG performance improvement, and organizational sustainability enhancement take place (Authority, 2021).

Furthermore, policy-makers must think about creating specific support mechanisms such as tax incentives, grants, and capacity- Building programs to those organizations that would like to establish digital leadership competencies (Al-Ansi et al., 2023) and green intellectual capital. These kinds of policy interventions have the potential of speeding up the spread of digital and green capacities within industries which in turn leads to the overall sustainability of a society ((Broadstock et al., 2023).

(c) Implications for Investors and Stakeholders

To investors and other stakeholders concerned with sustainability, the framework offers a theoretically-based explanation behind the importance of putting a greater emphasis on ESG performance as an indicator of the inherent organizational digital and green strengths. A good and improving ESG performance profile is likely to lead to organizations having the digital leadership competencies (Al-Ansi et al., 2023) and green intellectual capital to maintain competitive advantage and organizational resilience in the long term (Arnou & Hammarstedt,

2021). ESG performance is therefore not a compliance pointer but a prospective pointer of organizational capability endowment and sustainability potential.

Conclusion and Future Directions

The theoretical framework, which has been constructed within the context of this conceptual paper, has placed ESG Performance at the core of the mediating process between Digital Leadership and Green Intellectual Capital on the one hand, and Organizational Sustainability on the other hand. Based on the Dynamic Capabilities Theory, the NRBV, and the Stakeholder Theory, seven formal propositions have been drawn and supported theoretically. The framework fills an important gap in the available literature (it is the first combined conceptual model to theoretically explain Digital Leadership and Green Intellectual Capital as two independent antecedents of ESG Performance and, by extension, Organizational Sustainability).

The four theoretical contributions made by the paper are expansion of Dynamic Capabilities Theory to sustainability and ESG performance spheres; enhancement of the NRBV with a dual-pathway model of green intellectual capital value creation; operationalization of the Stakeholder Theory with the ESG Performance mediating mechanism; and the overall conceptual basis of future empirical studies on the digital-green-sustainability nexus.

The study propositions ought to be empirically tested by the future studies through the quantitative survey method, structural equation modeling, or longitudinal panel data study. Theoretical knowledge on the issue of boundary conditions and moderating variables, like industry environmental intensity, regulatory stringency, and organizational size, which may help intensify or subdue the proposed relationships, would further be deepened by comparative research on the issue across industries, organizational size, and national contexts. Further, conceptual research could also be developed to determine how organizational culture, institutional environment, and leadership style can be moderating factors of the ESG Performance mediation pathway in the future.

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