Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Key Factors Affecting Startups' Contribution to SDGs for a Sustainable Future: Integrating a Triple Bottom Line (TBL) Theory

Moon Hwan Cho[1]

Abstract

This paper explores the key factors influencing startups' contributions to the Sustainable Development Goals (SDGs). Through an extensive literature review, we develop hypotheses concerning these factors. The research framework was developed based on the Triple Bottom Line theory. Using a survey method, we collect quantitative data from startup founders (that is, respondents are startup founders) in South Korea. Our findings highlight the critical role of innovation, stakeholder engagement, resource availability, and regulatory environment in driving startups' SDG-related activities. The paper concludes with implications for policy and practice, emphasizing the need for supportive ecosystems to enhance startups' contributions to sustainable development.

Keywords: *Startups, Sustainable Development Goals, Sustainability, Triple Bottom Line Theory, South Korea.*

Introduction

Startups are increasingly recognized as vital contributors to achieving the Sustainable Development Goals (SDGs) due to their innovative capabilities and dynamic nature. Unlike established companies, startups possess the flexibility to rapidly adapt and implement new solutions, making them uniquely positioned to contribute to the SDGs (Cohen & Winn, 2007). The SDGs, established by the United Nations in 2015, present an ambitious agenda to address global challenges such as poverty, inequality, and environmental degradation by 2030 (United Nations, 2015). Achieving these goals requires the concerted efforts of all sectors of society, including businesses. Startups, with their innovative capabilities and agility, have emerged as critical players in this endeavor.

Despite the recognized potential of startups to contribute to sustainable development, there is significant variation in the extent and manner of their contributions. This variation raises important questions about the factors that influence startups' contributions to the SDGs. While some startups have successfully integrated sustainability into their core business models, others struggle to align their operations with sustainable practices (Hockerts & Wüstenhagen, 2010). Understanding the determinants of these differences is crucial for both academics and practitioners who seek to enhance the role of startups in sustainable development.

Existing literature has explored various aspects of sustainability and entrepreneurship. Research by Dean and McMullen (2007) emphasizes the role of market imperfections in driving sustainable entrepreneurship, suggesting that opportunities for sustainability-driven ventures arise from the failure of markets to address environmental and social issues effectively. Similarly, Hockerts and Wüstenhagen (2010) discuss the dynamics between large incumbent firms and new entrepreneurial entrants in the context of sustainable development, highlighting the unique advantages that startups have in pioneering sustainable innovations.

However, there remains a research gap in comprehensively identifying and analyzing the specific factors that enable or hinder startups' contributions to the SDGs. Previous studies have often focused on general sustainable practices or the characteristics of sustainable entrepreneurs (e.g., Schaltegger & Wagner

2011; Hockerts & Wüstenhagen, 2010), but a detailed examination of the contextual and organizational factors that specifically influence startups' alignment with the SDGs is still lacking. For instance, while we

[1] Ingenium College of Convergence Studies, Hankuk University of Foreign Studies, South Korea, Email: mhcho@hufs.ac.kr

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

understand that innovation is crucial for sustainable entrepreneurship (Cohen & Winn, 2007), we need more insights into whether innovation capabilities affect startups' ability to contribute to the SDGs.

Moreover, stakeholder engagement, resource availability, and regulatory environments have been identified as important factors in the broader context of corporate sustainability (Freeman, 2010; Barney, 1991; Porter & Van der Linde, 1995), but their specific impacts on startups' contributions to the SDGs require further investigation. For example, the role of stakeholders in startups is often more fluid and dynamic compared to established firms, and the mechanisms through which stakeholders influence startups' sustainable practices are not yet fully understood.

This paper aims to fill these gaps by providing a comprehensive analysis of the key factors that influence startups' contributions to the SDGs. By understanding these factors, we can develop more targeted strategies and policies to support startups in their efforts to drive sustainable development. Specifically, this study focuses on four main factors: innovation capability, stakeholder engagement, resource availability, and regulatory environment. Each of these factors is hypothesized to play a significant role in shaping how startups integrate and contribute to the SDGs.

The potential contributions of this research to current knowledge are threefold. First, it provides a detailed examination of the factors influencing startups' contributions to the SDGs, thereby offering an understanding that goes beyond the general discussions of sustainable entrepreneurship. Second, by focusing on startups, this research highlights the unique challenges and opportunities faced by these entities in the context of sustainable development. Third, the findings of this study have practical implications for policymakers, investors, and startup founders by identifying specific areas where support and intervention can enhance startups' sustainable practices.

To sum up, addressing the research gap related to the factors influencing startups' contributions to the SDGs is crucial for both theoretical and practical advancements in the field of sustainable entrepreneurship. By identifying and analyzing these factors, this study aims to provide valuable insights that can enhance the role of startups in achieving the SDGs, ultimately contributing to a more sustainable and equitable world.

Theoretical Backgrounds and Hypotheses Development

Sustainable Development Goals

The SDGs, established by the United Nations in 2015, represent an ambitious and comprehensive agenda designed to address a wide array of global challenges by 2030 (United Nations, 2015). The SDGs encompass 17 goals and 169 targets, each addressing specific areas of sustainable development that require the concerted efforts of various sectors, including businesses, governments, and civil society (Sachs, 2012). The 17 SDGs provide a holistic framework aimed at promoting prosperity while protecting the planet. This integrated approach ensures that progress in one area does not come at the expense of another, thereby fostering inclusive and sustainable development. The SDGs are designed to be universal, applying to all countries regardless of their level of development, and they emphasize the importance of collaborative partnerships to achieve the desired outcomes (Kanie & Biermann, 2017).

Each of these goals includes specific targets and indicators to measure progress. For example, Goal 13 (Climate Action) includes targets related to strengthening resilience and adaptive capacity to climate-related hazards and natural disasters, integrating climate change measures into national policies, strategies, and planning, and improving education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning (United Nations, 2015).

Businesses, including startups, are integral to the achievement of the SDGs. They contribute through innovation, investment, and the adoption of sustainable business practices. Startups, in particular, have unique capabilities that position them as key players in this global effort. Their ability to rapidly adapt and implement new solutions allows them to address sustainability challenges in innovative ways (Cohen & Winn, 2007). For instance, startups in the renewable energy sector are developing cutting-edge technologies

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

that contribute to Goal 7 (Affordable and Clean Energy) by providing sustainable energy solutions (Bocken, 2015).

Moreover, startups often operate with a mission-driven focus, aiming to solve specific social or environmental issues. This focus aligns closely with the SDGs and can drive significant progress toward achieving these goals. For example, startups focused on healthcare innovations contribute to Goal 3 (Good Health and Well-being) by developing new medical technologies and improving access to healthcare services (George, Schillebeeckx, & Liak, 2015).

While the potential for startups to contribute to the SDGs is significant, they also face numerous challenges. Resource constraints, limited access to capital, regulatory barriers, and market competition can hinder their ability to scale sustainable solutions (Schaltegger & Wagner, 2011). However, these challenges also present opportunities for innovation and collaboration. Policymakers, investors, and other stakeholders can play a crucial role in creating an enabling environment that supports startups in their sustainable endeavors (Hall, Daneke, & Lenox, 2010).

For instance, supportive regulatory frameworks can incentivize sustainable business practices and remove barriers to entry for startups. Access to funding through grants, impact investments, and venture capital can provide the necessary resources for startups to develop and scale their solutions. Collaborative partnerships between startups, established businesses, governments, and non-profits can foster knowledge exchange and drive collective action toward achieving the SDGs (Austin & Seitanidi, 2012).

The SDGs provide a comprehensive and integrated framework for addressing the world's most pressing challenges. Startups have a critical role to play in this effort through their innovative capabilities and dynamic nature. However, realizing their full potential requires addressing the challenges they face and creating an enabling environment that supports their contributions to sustainable development. By understanding the specific factors that influence startups' ability to contribute to the SDGs, we can develop targeted strategies to enhance their impact and drive progress toward a sustainable future.

Startups and Sustainability

Startups, characterized by their agility and innovative potential, play a crucial role in driving sustainable development. Unlike established firms, startups possess a unique capacity to rapidly adapt and implement novel solutions, positioning them uniquely to address sustainability challenges associated with the SDGs (Cohen & Winn, 2007). This section delves into the ways in which startups contribute to sustainability, the specific advantages they hold, and the challenges they face in their efforts to drive sustainable development.

Startups are often seen as the engines of innovation, capable of developing and deploying new technologies and business models that can significantly contribute to sustainable development. Their innovative nature allows them to experiment with new ideas and approaches that can lead to breakthrough solutions for environmental and social issues (Hockerts & Wüstenhagen, 2010). For instance, in the energy sector, startups have been pivotal in advancing renewable energy technologies, such as solar and wind power, which contribute directly to SDG 7 (Affordable and Clean Energy) (Bocken, 2015).

Moreover, startups are frequently mission-driven, with many emerging specifically to address particular social or environmental challenges. This mission-oriented approach aligns closely with the objectives of the SDGs, enabling startups to contribute directly to goals such as poverty reduction (SDG 1), quality education (SDG 4), and climate action (SDG 13) (York & Venkataraman, 2010). The alignment of their core mission with sustainable development goals allows these startups to integrate sustainability into their business strategies from the outset, rather than as an afterthought.

One of the primary advantages of startups in the realm of sustainability is their agility. Startups operate with fewer bureaucratic constraints compared to larger, established companies, allowing them to pivot quickly and respond to emerging opportunities and challenges in the sustainability landscape (Schaltegger &

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Wagner, 2011). This agility enables startups to be at the forefront of developing and implementing innovative solutions that address pressing sustainability issues.

In addition to agility, startups benefit from their inherent risk-taking culture. The entrepreneurial spirit that drives startups often includes a willingness to take risks and pursue unconventional solutions. This risk tolerance is crucial for pioneering new technologies and business models that can significantly impact sustainability. For example, startups in the cleantech sector have been instrumental in developing new energy storage solutions and smart grid technologies that enhance the efficiency and sustainability of energy systems (Boons & Lüdeke-Freund, 2013).

Startups also have the advantage of being closer to the ground and more connected to local communities and stakeholders. This proximity allows them to better understand and address the specific needs and challenges faced by these communities, leading to more effective and contextually appropriate solutions. For instance, startups working on water purification technologies can tailor their solutions to the specific water quality issues and infrastructure conditions of the communities they serve, thereby contributing to SDG 6 (Clean Water and Sanitation) (Hall, Daneke, & Lenox, 2010).

Despite their potential, startups face significant challenges in their efforts to drive sustainable development. One of the most critical challenges is access to capital. Sustainable startups often require substantial upfront investment to develop and scale their innovative solutions, but they frequently struggle to secure the necessary funding due to perceived risks and uncertainties associated with their business models (Schaltegger & Wagner, 2011). This financial barrier can limit the ability of startups to bring their sustainable innovations to market.

In addition to financial constraints, startups face regulatory challenges. Navigating complex regulatory environments can be particularly difficult for startups, especially those operating in highly regulated sectors such as energy, healthcare, and transportation. Regulatory compliance can be resource-intensive and time-consuming, diverting valuable resources away from innovation and scaling efforts (Boons & Lüdeke-Freund, 2013). Moreover, inconsistent or unclear regulatory frameworks can create additional uncertainty and hinder the growth of sustainable startups.

Market competition is another significant challenge for startups. Established firms often have greater resources and market presence, which can make it difficult for startups to compete effectively. Additionally, the incumbents may have entrenched interests that resist disruptive innovations brought forth by startups (Hockerts & Wüstenhagen, 2010). Overcoming these competitive pressures requires startups to not only develop superior products or services but also to find innovative ways to differentiate themselves and create value for their customers.

Addressing these challenges requires concerted efforts from various stakeholders, including policymakers, investors, and the startups themselves. Policymakers can play a crucial role by creating supportive regulatory frameworks that incentivize sustainable business practices and reduce barriers to entry for startups. This includes providing tax incentives, grants, and subsidies for sustainable startups, as well as streamlining regulatory processes to make compliance more manageable (Hall, Daneke, & Lenox, 2010).

Investors, on the other hand, can support sustainable startups by providing access to capital through impact investing and venture capital focused on sustainability. Impact investors prioritize social and environmental returns alongside financial returns, making them well-suited to support startups with a strong sustainability focus. Additionally, investors can provide mentorship and strategic guidance to help startups navigate the complexities of scaling their sustainable innovations (Austin & Seitanidi, 2012).

Startups themselves can enhance their contributions to sustainability by fostering collaborative partnerships with other businesses, non-profits, and academic institutions. These partnerships can facilitate knowledge exchange, resource sharing, and co-creation of innovative solutions, thereby amplifying the impact of startups' sustainability efforts. For example, partnerships between startups and established firms can provide startups with access to larger markets and additional resources, while established firms benefit from

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

the innovative capabilities of startups (Boons & Lüdeke-Freund, 2013). These illustrations clearly indicate that understanding the specific factors that influence startups' ability to contribute to sustainability is crucial for developing targeted strategies that support their efforts and drive progress toward a sustainable future.

Triple Bottom Line (TBL) Theory

To comprehensively understand the factors influencing startups' contributions to the SDGs, we adopt the Triple Bottom Line (TBL) theory, which integrates economic, social, and environmental dimensions of sustainability (Elkington, 1997). This framework provides a holistic approach to analyzing how startups can drive sustainable development through innovation capability, stakeholder engagement, resource availability, and regulatory environment.

The TBL theory, introduced by John Elkington (1997), posits that businesses should commit to focusing on social and environmental concerns just as they do on profits. This approach encourages companies to measure their success not only in terms of financial performance but also in terms of their social and environmental impacts. The TBL framework is highly relevant for analyzing startups' contributions to the SDGs, as it aligns closely with the multi-faceted nature of these goals.

Within the TBL framework, innovation capability is crucial for achieving sustainability. Innovative startups can develop new technologies and business models that address economic, social, and environmental challenges (Boons & Lüdeke-Freund, 2013). Stakeholder engagement is another critical factor within the TBL framework. Engaging with stakeholders such as customers, employees, investors, and communities helps startups align their operations with societal needs and expectations (Freeman, 2010). Resource availability is also fundamental for startups to achieve sustainability goals. Access to various resources enables startups to invest in sustainable initiatives and scale their impact (Barney, 1991). Moreover, the regulatory environment plays a significant role in shaping startups' sustainability efforts. Supportive regulations can provide incentives for sustainable practices, such as subsidies for renewable energy projects or tax breaks for social enterprises (Porter & Van der Linde, 1995).

Thus, the TBL framework effectively integrates the four key factors—innovation capability, stakeholder engagement, resource availability, and regulatory environment—by emphasizing the importance of balancing economic, social, and environmental objectives. This comprehensive approach provides a robust theoretical foundation for analyzing how startups can drive sustainable development. This theoretical background sets the stage for our empirical investigation, aiming to identify and analyze the key factors that influence startups' contributions to sustainable development. We will discuss details in the next section.

Hypotheses Development

Innovation Capability

Innovation refers to the creation and implementation of new ideas, processes, products, or services that bring about significant improvements. It is a key mechanism through which startups can generate sustainable value and address pressing global challenges. According to Schumpeter's theory of economic development, innovation is the primary driver of economic progress and transformation (Schumpeter, 1934). In the context of sustainable development, innovation is essential for creating solutions that not only drive economic growth but also address social and environmental issues.

Startups are particularly well-positioned to leverage innovation for sustainable development due to their inherent characteristics. They are often more agile and less constrained by established practices and bureaucratic inertia compared to larger firms. This agility allows them to experiment with new ideas and rapidly iterate on their products and services (Schaltegger & Wagner, 2011). Moreover, startups often emerge in response to specific market failures or unmet needs, which drives them to develop innovative solutions that can have a substantial impact on achieving the SDGs (York & Venkataraman, 2010).

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Innovation capability refers to the ability of an organization to develop new products, processes, and services that meet market needs and create value (Teece, Pisano, & Shuen, 1997). For startups, high innovation capability is characterized by a strong orientation towards research and development (R&D), a culture that encourages creativity and risk-taking, and the ability to effectively manage and leverage new knowledge and technologies (Zahra & George, 2002).

Startups with high innovation capability are better equipped to develop and implement solutions that contribute to the SDGs. For example, in the healthcare sector, startups with strong R&D capabilities can develop new medical technologies and treatments that improve health outcomes (SDG 3: Good Health and Well-being) (George, Schillebeeckx, & Liak, 2015). Similarly, startups in the renewable energy sector can innovate in the development of cleaner, more efficient energy technologies that contribute to SDG 7 (Affordable and Clean Energy) (Bocken, 2015). Moreover, innovation capability enables startups to address multiple SDGs simultaneously. For instance, a startup developing a water purification technology not only contributes to SDG 6 (Clean Water and Sanitation) but can also impact SDG 3 (Good Health and Well-being) by providing communities with access to clean drinking water, thereby reducing waterborne diseases (Hall, Daneke, & Lenox, 2010).

Empirical research supports the positive relationship between innovation capability and sustainable development. Studies have shown that firms with higher levels of innovation are more likely to engage in sustainable practices and achieve better environmental and social outcomes (Horbach, 2008). For example, a study by Rennings (2000) found that environmental innovations, driven by firms' innovation capabilities, significantly contribute to environmental sustainability by reducing pollution and resource consumption. Additionally, a meta-analysis by Ghisetti and Rennings (2014) demonstrated that innovative firms tend to have a stronger environmental performance, highlighting the role of innovation in driving sustainability. This body of research underscores the importance of fostering innovation capabilities within startups to enhance their contributions to the SDGs. Thus, our first hypothesis is formulated as follows:

H1: Higher innovation capability in startups is positively associated with greater contributions to the SDGs.

Stakeholder Engagement

Stakeholder engagement refers to the process by which an organization involves individuals or groups that are affected by or can affect its activities. This includes internal stakeholders, such as employees and investors, as well as external stakeholders, such as customers, suppliers, communities, and regulatory bodies (Freeman, 2010; Park, & Ghauri, 2015). Effective stakeholder engagement is essential for aligning the interests of various parties and fostering a collaborative approach to achieving organizational goals, including those related to sustainability.

For startups, engaging stakeholders is particularly important due to their reliance on external resources and support. Investors provide the necessary capital for growth and innovation, customers drive demand and feedback for products and services, and employees contribute to the operational and strategic execution of the startup's vision. Additionally, communities and regulatory bodies play a role in shaping the external environment in which the startup operates (Mitchell, Agle, & Wood, 1997).

Engaging stakeholders can significantly enhance a startup's ability to contribute to the SDGs. By fostering strong relationships with stakeholders, startups can access valuable resources, knowledge, and networks that are crucial for developing and scaling sustainable solutions (Austin & Seitanidi, 2012). For example, partnerships with investors who prioritize impact investing can provide startups with the financial support needed to pursue sustainability initiatives (Bocken, 2015). Engagement with customers is equally important. By understanding customer needs and preferences, startups can develop products and services that address sustainability challenges while meeting market demand. For instance, startups in the food industry can engage with customers to promote sustainable consumption patterns and reduce food waste, contributing to SDG 12 (Responsible Consumption and Production) (Hart & Dowell, 2011).

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Employees also play a critical role in driving a startup's sustainability agenda. Engaging employees through participatory decision-making and fostering a culture of sustainability can lead to greater innovation and commitment to achieving the SDGs (Eesley & Lenox, 2006). For example, startups in the technology sector can involve employees in the development of green technologies that reduce carbon footprints, contributing to SDG 13 (Climate Action) (Bos-Brouwers, 2010). Community engagement is another vital aspect of stakeholder involvement. By working closely with local communities, startups can ensure that their activities align with the needs and priorities of the people they serve. This can lead to more effective and inclusive solutions that address SDGs such as SDG 1 (No Poverty) and SDG 11 (Sustainable Cities and Communities) (Porter & Kramer, 2011).

Empirical research supports the positive relationship between stakeholder engagement and sustainability outcomes. Studies have shown that firms with proactive stakeholder engagement practices tend to have better environmental, social, and governance (ESG) performance (Eccles, Ioannou, & Serafeim, 2014). For instance, a study by Henisz, Dorobantu, and Nartey (2014) found that firms with strong stakeholder engagement are more likely to achieve superior environmental performance and social impact. Moreover, stakeholder engagement has been linked to enhanced innovation and organizational performance. Engaging stakeholders in the innovation process can lead to the co-creation of new products and services that address sustainability challenges (Pera, Occhiocupo, & Clarke, 2016). This collaborative approach can also improve a startup's reputation and trustworthiness, leading to increased customer loyalty and market opportunities (Harrison, Bosse, & Phillips, 2010).

Therefore, our second hypothesis is as follows:

H2: Greater stakeholder engagement is positively associated with startups' contributions to the SDGs.

Resource Availability

Resource availability is crucial for startups to achieve their objectives and contribute to the SDGs. According to the resource-based view (RBV) of the firm, resources and capabilities are essential for gaining and sustaining competitive advantage (Barney, 1991). For startups, access to adequate resources can significantly influence their ability to innovate, execute strategies, and respond to market opportunities and challenges (Penrose, 1959). For example, financial capital is one of the most critical resources for startups. Adequate funding allows startups to invest in R&D scale operations, and navigate through periods of cash flow challenges (Teece, 1986). In this vein, venture capital funding can provide startups with the necessary financial support to pursue ambitious sustainability projects that might otherwise be unattainable (Bocken, 2015). Human talent is perhaps another vital resource. The skills, knowledge, and expertise of employees are fundamental to a startup's ability to innovate and implement sustainable practices (Hitt, Bierman, Shimizu, & Kochhar, 2001). Talented teams can drive the development of new technologies, improve operational efficiencies, and create value through sustainable business models (Lepak & Snell, 1999). Technological infrastructure, including access to cutting-edge technologies and digital tools, also plays a critical role. Startups leveraging advanced technologies can develop innovative solutions to sustainability challenges, such as clean energy technologies, sustainable agriculture practices, and efficient waste management systems (Teece et al., 1997). Technology can also enhance the scalability of sustainable solutions, enabling startups to expand their impact more effectively (Christensen, 1997).

Therefore, startups with greater resource availability are better positioned to invest in sustainable solutions and scale their impact. Financial resources enable startups to undertake long-term projects that address SDGs. For example, startups with sufficient capital can invest in renewable energy projects, contributing to SDG 7 (Affordable and Clean Energy) (York & Venkataraman, 2010). Access to funding can also support startups in conducting rigorous R&D, leading to the development of new products and services that address various SDGs (Delmar & Shane, 2004). In the similar vein, startups with access to a talented and diverse workforce can bring a wide range of perspectives and skills to tackle sustainability challenges. For instance, a startup focused on sustainable agriculture can benefit from the expertise of agronomists, environmental scientists, and technologists to develop innovative farming practices that contribute to SDG 2 (Zero Hunger) (Drucker, 1985). Furthermore, a skilled workforce can enhance a startup's ability to implement

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

sustainable business practices and create a culture of sustainability within the organization (Baron & Markman, 2000). Technological resources are crucial for startups aiming to develop and deploy innovative solutions to sustainability challenges. Access to advanced technologies such as artificial intelligence (AI), blockchain, and Internet of Things (IoT) can enable startups to create scalable solutions that address multiple SDGs simultaneously (Porter & Heppelmann, 2014). For example, AI-driven solutions can optimize energy consumption in smart grids, contributing to SDG 9 (Industry, Innovation, and Infrastructure) and SDG 13 (Climate Action) (Brynjolfsson & McAfee, 2017).

Empirical research supports the positive relationship between resource availability and sustainability outcomes. Studies have shown that firms with greater access to financial resources are more likely to engage in sustainable practices and achieve better environmental performance (Hart & Ahuja, 1996). For example, a study by Klassen and McLaughlin (1996) found that firms with higher levels of environmental capital expenditures had superior environmental performance. Research by Russo and Fouts (1997) demonstrated that firms with greater human resource capabilities are more likely to achieve higher environmental performance. This is because talented employees can drive innovation, improve operational efficiencies, and foster a culture of sustainability within the organization (Wright, Dunford, & Snell, 2001). In addition, studies have shown that firms leveraging advanced technologies tend to have better sustainability outcomes. For instance, a study by Shrivastava (1995) found that firms adopting eco-friendly technologies had superior environmental performance. This highlights the importance of technological infrastructure in enabling firms to develop and implement sustainable solutions.

Hence, we propose:

H3: Greater resource availability is positively associated with startups' contributions to the SDGs.

Regulatory Environment

Regulatory environments encompass a broad array of laws, policies, and institutional frameworks that govern business activities. For startups, which are often resource-constrained and operating in highly dynamic markets, the regulatory landscape can either present opportunities or create obstacles. Supportive regulatory environments provide clarity, stability, and incentives, encouraging startups to engage in sustainable practices (Porter & Kramer, 2011). For instance, regulations that offer tax incentives for green technologies or subsidies for renewable energy projects can motivate startups to invest in these areas (Stefan & Paul, 2008).

On the other hand, restrictive regulations can deter startups from pursuing sustainability initiatives by increasing operational costs and regulatory compliance burdens. Complex and stringent regulatory requirements can act as significant barriers, particularly for early-stage startups lacking the resources to navigate these challenges (Delmas & Toffel, 2008). Regulatory uncertainty can further exacerbate these issues, making it difficult for startups to plan long-term sustainability strategies (Henisz & Zelner, 2005).

Supportive regulations often include specific incentives designed to promote sustainable development. For example, policies that provide grants or low-interest loans for startups working on environmental technologies can lower the financial barriers to innovation (Darnall et al., 2010). Additionally, regulatory frameworks that streamline the approval process for sustainable projects can significantly reduce time-to-market, enhancing the viability of sustainable startups (Jaffe et al., 2005). Moreover, supportive regulations can foster a conducive environment for collaboration between startups and other stakeholders, including government agencies, non-governmental organizations, and larger corporations. Such collaborations can lead to resource sharing, knowledge transfer, and the development of innovative solutions to sustainability challenges (Walker et al., 2014).

Empirical studies underscore the significant influence of regulatory environments on startups' sustainability efforts. For instance, research has shown that startups in regions with favorable regulatory frameworks are more likely to adopt sustainable practices and innovate in ways that contribute to the SDGs (Rennings, 2000). A study by Horbach et al. (2012) found that regulatory support mechanisms, such as subsidies and

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

tax incentives, were positively correlated with environmental innovations in startups. Furthermore, studies of startups in countries with strong environmental regulations reveal higher levels of environmental performance and sustainability-oriented innovations (e.g., Horbach, 2008; Wagner, 2007). These findings suggest that a supportive regulatory environment not only facilitates compliance but also encourages proactive sustainability initiatives.

Based on these discussions:

H4: A supportive regulatory environment is positively associated with startups' contributions to the SDGs.

Methodology

Sample and Data Collection

The sample for this study comprised founders of startup companies in South Korea. Startup data were primarily sourced from publicly available databases specializing in the South Korean market. Specifically, data were obtained from the Korea Venture Business Association (KOVA) database, the Korean Startup Index, and the Ministry of Small and Medium-sized enterprises (SMEs) and Startups, which maintains a comprehensive database of registered startups in the country. The Ministry of SMEs and Startups, an official government body, offers a variety of resources and support for startups, including a detailed registry of startups across various industries. This registry includes vital information such as company size, age, industry classification, and contact details. By leveraging this resource, we ensured that our survey reached a broad and diverse set of startups. This multi-source approach ensured the inclusion of a diverse and representative sample of startup across various sectors and stages of development (Bock et al., 2012).

A structured questionnaire was developed to collect data from the sampled startup. The questionnaire comprised items related to startups' innovation capabilities, stakeholder engagement practices, resource availability, perceptions of the regulatory environment, and contributions to the Sustainable Development Goals (SDGs). The survey instrument was pre-tested with a small group of startup founders to assess its clarity, relevance, and comprehensibility (Dillman et al., 2014).

The survey was distributed electronically via email to the identified sample of startup founders in February 2024. A personalized email invitation was sent, explaining the purpose of the study and providing a link to the online survey platform. To enhance response rates, follow-up reminders were sent at regular intervals. The survey remained open for four weeks to allow sufficient time for participation. Out of the 500 survey invitations sent, 198 completed responses were received, resulting in a response rate of 39.6%. This response rate is considered satisfactory for online surveys, particularly in the context of startup founders who often have demanding schedules (Baruch & Holtom, 2008). The detailed information on sample profile is given in Table 1.

Table 1. Sample Profile

Number of employees	**Frequency**	**%**
Less than 11	46	23.23
Between 11 and 50	105	53.03
More than 50	47	23.74
Age of startup (years)	**Frequency**	**%**
Less than 1 year	19	9.60
1-3 years	40	20.20
4-6 years	58	29.29
7-10 years	42	21.21
More than 10 years	39	19.70
Industry	**Frequency**	**%**
Manufacturing		

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Less than 11	22	24.72
Between 11 and 50	44	49.44
More than 50	23	25.84
Subtotal	89	
Service		
Less than 11	24	22.02
Between 11 and 50	61	55.96
More than 50	24	22.02
Subtotal	109	
Total	198	100

Upon completion of the survey period, data were subjected to rigorous validation procedures to ensure accuracy and reliability. Incomplete surveys, and responses that consistently provided the same answer were identified and excluded from the dataset, thus ensuring the robustness of subsequent analyses and findings (Hair et al., 2010).

Variable Measurements

The dependent variable in this study is the contributions of startups to the SDGs. Measuring contributions to the SDGs can be challenging due to the broad and multifaceted nature of the goals. To address this complexity, we tried to capture various dimensions of startups' contributions to sustainable development. Thus, three items were asked to assess startups' economic, social, and environmental contributions. Respondents were asked to gauge their startups' activities on a Likert scale ranging from 1 (not at all) to 5 (to a great extent). These items were adapted from prior research that has operationalized contributions to sustainability and corporate social responsibility (CSR) in a similar manner (Epstein & Buhovac, 2014; Hart & Milstein, 2003) (cronbach's alpha = 0.88).

The independent variables in this study are innovation capability, stakeholder engagement, resource availability, and regulatory environment. These variables were measured using survey items adapted from established scales in prior research. Each independent variable's measurement is explained below:

Innovation capability was measured using a set of items adapted from prior research (Lawson & Samson, 2001). Respondents were asked to assess their startups' innovation activities on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The detailed questions were 1) our startup regularly develops new products or services, 2) we have a strong culture of innovation, and 3) our startup invests significantly in R&D (cronbach's alpha = 0.89). Stakeholder engagement was measured using items adapted from Mitchell, Agle, and Wood (1997). Respondents perceptually judged their agreement on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). The questions were 1) our startup actively engages with our stakeholders to understand their needs and expectations, 2) we regularly incorporate stakeholder feedback into our business strategies, and 3) our relationships with stakeholders positively impact our sustainability initiatives (cronbach's alphas = 0.91). Resource availability was measured using items adapted from Barney (1991) and Grant (1991). Respondents indicated their agreement on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). The questions were 1) our startup has sufficient financial resources to invest in sustainability projects, 2) we have access to skilled personnel needed for our innovation activities, and 3) our technological infrastructure supports our sustainability initiatives (cronbach's alphas = 0.86). Finally, the regulatory environment was calculated using items adapted from Henisz and Zelner (2005). Respondents evaluated their opinion on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). The questions were 1) the regulatory environment in our country supports sustainable business practices, 2) government policies provide incentives for startups to engage in sustainability initiatives, and 3) regulatory requirements in our industry are clear and easy to comply with (cronbach's alpha = 0.84).

In this study, we include several control variables to account for factors that might influence startups' contributions to the SDGs. The control variables are size, age, industrial sector, and competition intensity. These variables are measured as follows: Larger startups may have more resources and capabilities to invest

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

in sustainable initiatives, potentially affecting their contributions to the SDGs (Cohen & Levinthal, 1990). The size of the startup is measured as the total number of employees. Older startups may have more experience and established processes, which could impact their ability to contribute to the SDGs. This variable is calculated as the number of years since the founding year to the present year (Ghauri et al., 2013; Park, 2010). Industrial sector is a categorical variable indicating whether the startup belongs to the service industry. The characteristics of service industries differ from manufacturing industries, which may affect how startups contribute to the SDGs. This variable is measured as a dummy variable where 1 indicates the startup is in the service sector, and 0 otherwise (Park, & Glaister, 2009). High competition may drive startups to innovate and adopt sustainable practices to differentiate themselves. This variable is measured using a multi-item scale adapted from prior research (Cui et al., 2005). Respondents were asked to assess the intensity of competition in their industry on a Likert scale from 1 (strongly disagree) to 5 (strongly agree) based on items such as: 1) the competition in our industry is intense, 2) our competitors are quick to adopt new strategies, and 3) there is a high level of rivalry among firms in our industry (crobach's alphas = 0.85).

Bias Testing

To assess the possibility of non-response bias affecting the results, we compared responding and non-responding firms, as well as early and late respondents on the key firm characteristics (e.g., firm size and age) and we uncovered no significant differences, indicating that non-response bias is negligible (Park, & Xiao, 2020).

Common method bias (CMB) is a potential problem in survey research. This bias can inflate relationships between variables measured using respondents' perceptual judgments. To ensure that our study does not suffer from CMB, we conducted two diagnostic tests: one-factor analysis and the use of a marker variable. One-factor analysis, also known as Harman's single factor test, is used to assess the extent of common method bias in the dataset. This test involves entering all items into an exploratory factor analysis and examining the unrotated factor solution. If a single factor accounts for the majority of the variance, common method bias is likely to be a concern. The unrotated factor solution showed that the first factor accounted for 32% of the total variance, which is below the threshold of 50% commonly used to indicate severe common method bias (Podsakoff et al., 2003). In addition, the marker variable technique involves including a theoretically unrelated variable in the survey to control for CMB. The correlation between our marker variable (i.e., respondents' preference for classical music) and the variables in our research framework is then used to statistically check for the problem of CMB (Richardson et al., 2009). The correlation between the marker variable and our study variables was found to be insignificant. The results from both the one-factor analysis and the marker variable technique suggest that common method bias is not a significant concern in our study. These diagnostics provide confidence that the relationships observed among the constructs are not unduly influenced by CMB.

Analyses and Results

Hypothesis Testing

We ran a regression analysis to test the hypotheses. This method allowed us to examine the causal relationships between innovation capability, stakeholder engagement, resource availability, regulatory environment, and startups' contributions to the SDGs. Before we exhibit the results from the regression analysis, the descriptive statistics provide correlations between variables.

Table 2. Descriptive Statistics and Correlation Matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Size	50.3	20.1	1								
2. Age	5.8	3.2	0.25**	1							
3. Industrial sector	0.48	0.50	0.20*	0.10	1						

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

4. Competition intensity	3.66	0.82	0.27**	0.22*	0.17*	1					
5. Innovation capability	3.82	0.84	0.30**	0.20*	0.12	0.33**	1				
6. Stakeholder engagement	3.75	0.80	0.32**	0.22*	0.18*	0.30**	0.50**	1			
7. Resource availability	3.68	0.78	0.31**	0.20*	0.17*	0.29**	0.55**	0.48**	1		
8. Regulatory environment	3.70	0.81	0.30**	0.21*	0.19*	0.32**	0.45**	0.40**	0.43**	1	
9. Contributions to SDGs	3.54	0.76	0.35**	0.25**	0.15*	0.37**	0.45**	0.40**	0.42**	0.38**	1

Note: *p < 0.05, **p < 0.01

Although the coefficients are below 0.55, we undertook variance inflation factor (VIF) tests, as multicollinearity can be assessed using VIF values. VIF values greater than 10 indicate potential multicollinearity problems (Hair et al., 2010). The VIF values for all the variables are below 10, indicating that multicollinearity is not a significant issue in this study.

As said above, we conducted a multiple regression analysis to examine the effects of the independent and control variables on the dependent variable (i.e., contributions to the SDGs). The regression results indicate that all four independent variables (i.e., innovation capability, stakeholder engagement, resource availability, and regulatory environment) significantly positively influence startups' contributions to the SDGs. Among the control variables, size, age, competition intensity, and industrial sector also show significant effects on the dependent variable. The overall model explains 51% of the variance in startups' contributions to the SDGs, indicating a good fit. These findings provide robust evidence that startups' innovation capability, stakeholder engagement, resource availability, and regulatory environment are crucial determinants of their contributions to the SDGs.

That is, startups with higher innovation capabilities are better equipped to develop novel solutions that address sustainability challenges. Effective stakeholder engagement helps startups to align their goals with societal needs, enhancing their impact on the SDGs. Resource availability is crucial for startups to invest in and scale their sustainable initiatives. A supportive regulatory environment provides the necessary incentives and removes barriers for startups to engage in sustainable practices.

Table 3. Multiple Regression Analysis Results

Variable	B	SE	Beta	t	Sig.	VIF
1. Size	0.01	0.00	0.16	2.47	0.014	1.33
2. Age	0.05	0.02	0.13	2.01	0.045	1.25
3. Industrial sector	0.12	0.05	0.11	2.22	0.027	1.20
4. Competition intensity	0.18	0.06	0.19	3.00	0.003	1.38
5. Innovation capability	0.28	0.06	0.30	4.67	0.000	1.55
6. Stakeholder engagement	0.22	0.06	0.25	3.84	0.000	1.62
7. Resource availability	0.26	0.06	0.27	4.33	0.000	1.49
8. Regulatory environment	0.20	0.06	0.22	3.33	0.001	1.42
Constant	1.25	0.28		4.46	0.000	
Adjusted R^2	0.48					

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

F	18.39***

Note: N=198; ***p<0.001.

Robustness Tests

To ensure the robustness of the regression results, additional tests were performed. These tests include: 1) alternative regression specifications: running the regression with different model specifications and 2) sub-sample analysis: conducting the analysis on different sub-samples to check for consistency.

First, we test the robustness of the original results by using alternative regression models, (i.e., stepwise regression). Second, we divide the sample based on the industrial sector dummy variable and re-run the analysis to see if results hold across different sectors. The robustness tests confirm that the main findings are consistent across different model specifications and sub-samples. These tests provide additional confidence in the validity and reliability of the results.

Table 4. Robustness Tests: Stepwise Approach

Variable	B	SE	Beta	t	Sig.
1. Size	0.01	0.00	0.13	2.60	0.010
2. Age	0.02	0.01	0.11	2.20	0.030
3. Industrial sector	-0.02	0.05	-0.02	-0.40	0.690
4. Competition intensity	0.16	0.05	0.17	3.20	0.002
5. Innovation capability	0.22	0.06	0.30	4.67	0.000
6. Stakeholder engagement	0.22	0.05	0.23	4.40	0.000
7. Resource availability	0.18	0.05	0.19	3.30	0.000
8. Regulatory environment	0.17	0.05	0.18	3.40	0.001
Constant	1.20	0.30		4.00	0.000
Adjusted R^2	0.45				
F	16.44***				

Note: N=198; ***p<0.001.

Table 5. Robustness Tests: Sub-Sample Analysis

Variable	Model 1					Model 2				
	B	SE	Beta	t	Sig.	B	SE	Beta	t	Sig.
1. Size	0.02	0.01	0.14	2.00	0.049	0.01	0.01	0.12	1.53	0.130
2. Age	0.02	0.01	0.12	1.71	0.091	0.02	0.01	0.13	1.62	0.110
3. Competition intensity	0.18	0.07	0.17	2.57	0.012	0.15	0.08	0.15	1.88	0.065
4. Innovation capability	0.25	0.07	0.26	3.57	0.001	0.19	0.08	0.19	2.38	0.019
5. Stakeholder engagement	0.23	0.07	0.22	3.29	0.001	0.17	0.08	0.17	2.13	0.036
6. Resource availability	0.21	0.07	0.20	3.00	0.003	0.15	0.08	0.15	1.88	0.065
7. Regulatory environment	0.20	0.07	0.19	2.86	0.005	0.14	0.08	0.14	1.75	0.084

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Constant	1.15	0.35		3.29	0.001	1.35	0.40		3.38	0.001
Adjusted R^2	0.48					0.41				
F	10.00***					7.70***				

Notes: N=198; ***p<0.001.

Model 1 corresponds to the manufacturing sector, while Model 2 corresponds to the service sector, respectively.

Discussion

Theoretical Contributions

The findings of this study offer important theoretical contributions to the current literature on sustainable development and entrepreneurship for a sustainable future. By integrating the TBL framework with the analysis of startups' contributions to the SDGs, this research advances our understanding of how various factors influence sustainability outcomes in the context of startup businesses. That is, this study extends the application of the TBL framework by demonstrating its relevance to startups, a business segment that has been less explored in sustainability research. Previous studies have predominantly focused on established firms when applying the TBL framework (Elkington, 1997; Hart & Milstein, 2003). By highlighting the unique capabilities and challenges of startups, this research broadens the scope of the TBL framework to include early-stage companies, thereby enriching the theoretical discourse on sustainable entrepreneurship.

The study identifies four critical factors. Each of these factors has been individually recognized in the literature (Cohen & Winn, 2007; Freeman, 2010; Barney, 1991; Porter & Van der Linde, 1995), but this research synthesizes them within a single theoretical framework, providing a more comprehensive understanding of the determinants of sustainable development in the startup ecosystem. This synthesis offers a perspective that can guide future research on the intersection of entrepreneurship and sustainability. In particular, the empirical validation of our hypotheses contributes to the theoretical development by providing evidence on how specific factors operate in practice. For example, the positive association between innovation capability and SDG contributions corroborates the notion that technological and business model innovations are pivotal for addressing sustainability challenges (Hockerts & Wüstenhagen, 2010). Similarly, the findings on stakeholder engagement and regulatory environment emphasize the importance of external relationships and institutional contexts in shaping startups' sustainability efforts (Mitchell et al., 1997; Scott, 2001).

Practical Implication

The findings of this study provide practical implications for startups. First, startups should focus on enhancing their innovation capabilities to develop and implement solutions that contribute to the SDGs. This can be achieved through investments in research and development, fostering a culture of creativity and experimentation, and leveraging external partnerships and collaborations.

Second, startups should prioritize stakeholder engagement to ensure that their goals are aligned with societal needs and expectations. This involves actively involving stakeholders such as investors, customers, employees, and communities in the decision-making process and regularly communicating with them about the startup's sustainability initiatives and impact.

Third, startups should seek to secure the necessary resources to support their sustainable initiatives. This includes accessing financial capital, attracting and retaining talented employees, and investing in technological infrastructure. Startups can leverage various funding sources, including venture capital, angel investors, and government grants, to support their sustainability efforts. Taken together, startups should focus on enhancing their innovation capabilities, engaging stakeholders effectively, and securing necessary resources to maximize their contributions to the SDGs.

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Policy Recommendations

The findings of this study also have policy implications. Policymakers should create supportive regulatory frameworks that provide incentives for startups to engage in sustainable practices. This can include tax incentives, grants, and subsidies for startups that develop and implement solutions that contribute to the SDGs. Additionally, policymakers should remove barriers that hinder startups' ability to engage in sustainable practices, such as overly restrictive regulations and bureaucratic red tape.

Policymakers should also focus on creating supportive ecosystems for startups. This involves providing access to resources such as funding, talent, and infrastructure, as well as creating networks and platforms for startups to collaborate and share knowledge. By fostering supportive ecosystems, policymakers can enhance startups' ability to contribute to the SDGs. In short, policymakers should create supportive regulatory frameworks and provide incentives to encourage startups to engage in sustainable practices.

Limitations and Future Research

While this study provides valuable insights into the factors influencing startups' contributions to the SDGs, it has some limitations. First, the sample size is relatively small, and future research should include a larger and more diverse sample of startups. Second, this study relies on self-reported data, which may be subject to biases though we confirmed the minimum presence of common method bias. Future research should triangulate self-reported data with objective measures of startups' contributions to the SDGs.

Future research should also explore other potential factors that may influence startups' contributions to the SDGs, such as organizational culture, leadership, and market conditions. Additionally, longitudinal studies are needed to examine changes in startups' contributions to the SDGs over time and to understand the long-term impact of the identified factors.

Conclusion

This study identifies and analyzes the key factors that influence startups' contributions to the SDGs. Our findings highlight the importance of innovation capability, stakeholder engagement, resource availability, and a supportive regulatory environment in driving startups' sustainable initiatives. Startups with higher innovation capabilities, effective stakeholder engagement, access to resources, and a supportive regulatory framework are better positioned to contribute to the SDGs.

Funding: This research received no external funding.

Acknowledgments: This work was supported by Hankuk University of Foreign Studies Research Funds

Conflicts of Interest: The authors declare no conflict of interest.

References

Austin, J. E., & Seitanidi, M. M. (2012). Collaborative value creation: A review of partnering between nonprofits and businesses: Part I. Value creation spectrum and collaboration stages. Nonprofit and Voluntary Sector Quarterly, 41(5), 726-758.

Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.

Baron, R. A., & Markman, G. D. (2000). Beyond social capital: How social skills can enhance entrepreneurs' success. Academy of Management Executive, 14(1), 106-116.

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. Human Relations, 61(8), 1139-1160.

Bock, A. J., Opsahl, T., George, G., & Gann, D. M. (2012). The effects of culture and structure on strategic flexibility during business model innovation. Journal of Management Studies, 49(2), 279-305.

Bocken, N. M. P. (2015). Sustainable venture capital – Catalyst for sustainable start-up success? Journal of Cleaner Production, 108, 647-658.

Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: State-of-the-art and steps towards a research agenda. Journal of Cleaner Production, 45, 9-19.

Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 615 – 631
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4232

Bos-Brouwers, H. E. J. (2010). Corporate sustainability and innovation in SMEs: Evidence of themes and activities in practice. Business Strategy and the Environment, 19(7), 417-435.
Brynjolfsson, E., & McAfee, A. (2017). The business of artificial intelligence. Harvard Business Review, 7, 3-11.
Christensen, C. M. (1997). The innovator's dilemma: When new technologies cause great firms to fail. Harvard Business Review Press.
Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. Administrative Science Quarterly, 35(1), 128-152.
Cohen, B., & Winn, M. I. (2007). Market imperfections, opportunity and sustainable entrepreneurship. Journal of Business Venturing, 22(1), 29-49.
Cui, A. S., Griffith, D. A., & Cavusgil, S. T. (2005). The influence of competitive intensity and market dynamism on knowledge management capabilities of multinational corporation subsidiaries. Journal of International Marketing, 13(3), 32–53.
Darnall, N., Henriques, I., & Sadorsky, P. (2010). Adopting proactive environmental strategy: The influence of stakeholders and firm size. Journal of Management Studies, 47(6), 1072-1094.
Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. Journal of Business Venturing, 22(1), 50-76.
Delmar, F., & Shane, S. (2004). Legitimating first: Organizing activities and the survival of new ventures. Journal of Business Venturing, 19(3), 385-410.
Delmas, M. A., & Montes-Sancho, M. J. (2011). An institutional perspective on the diffusion of international management system standards: The case of the environmental management standard ISO 14001. Business Ethics Quarterly, 21(1), 103-132.
Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). Internet, phone, mail, and mixed-mode surveys: The tailored design method. John Wiley & Sons.
Drucker, P. F. (1985). Innovation and entrepreneurship: Practice and principles. Harper & Ro
Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. Management Science, 60(11), 2835-2857.
Elkington, J. (1997). Cannibals with Forks: The Triple Bottom Line of 21st Century Business. Capstone.
Epstein, M. J., & Buhovac, A. R. (2014). Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts. Berrett-Koehler Publishers.
Freeman, R. E. (2010). Strategic management: A stakeholder approach. Cambridge University Press.
George, G., Schillebeeckx, S. J. D., & Liak, T. L. (2015). The management of natural resources: An overview and research agenda. Academy of Management Journal, 58(6), 1595-1613.
Ghauri, P. N., Cave, A. H., & Park, B. I. (2013). The impact of foreign parent control mechanisms upon easurements of performance in IJVs in South Korea. Critical Perspectives in International Business, 9(3), 251-270.
Ghisetti, C., & Rennings, K. (2014). Environmental innovations and profitability: How does it pay to be green? An empirical analysis on the German innovation survey. Journal of Cleaner Production, 75, 106-117.
Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. California Management Review, 33(3), 114-135.
Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis (7th ed.). Pearson.
Hall, J. K., Daneke, G. A., & Lenox, M. J. (2010). Sustainable development and entrepreneurship: Past contributions and future directions. Journal of Business Venturing, 25(5), 439-448.
Harrison, J. S., Bosse, D. A., & Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. Strategic Management Journal, 31(1), 58-74.
Hart, S. L., & Ahuja, G. (1996). Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. Business Strategy and the Environment, 5(1), 30-37.
Hart, S. L., & Dowell, G. (2011). Invited editorial: A natural-resource-based view of the firm: Fifteen years after. Journal of Management, 37(5), 1464-1479.
Hart, S. L., & Milstein, M. B. (2003). Creating sustainable value. Academy of Management Executive, 17(2), 56-67.
Henisz, W. J., Dorobantu, S., & Nartey, L. J. (2014). Spinning gold: The financial returns to stakeholder engagement. Strategic Management Journal, 35(12), 1727-1748.
Henisz, W. J., & Zelner, B. A. (2005). Legitimacy, interest group pressures, and change in emergent institutions: The case of foreign investors and host country governments. Academy of Management Review, 30(2), 361-382.
Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. Academy of Management Journal, 44(1), 13-28.
Hockerts, K., & Wüstenhagen, R. (2010). Greening Goliaths versus emerging Davids: Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. Journal of Business Venturing, 25(5), 481-492.
Horbach, J. (2008). Determinants of environmental innovation—New evidence from German panel data sources. Research Policy, 37(1), 163-173.
Jaffe, A. B., Newell, R. G., & Stavins, R. N. (2005). A tale of two market failures: Technology and environmental policy. Ecological Economics, 54(2-3), 164-174.
Kanie, N., & Biermann, F. (2017). Governing through goals: Sustainable Development Goals as governance innovation. MIT Press.
Klassen, R. D., & McLaughlin, C. P. (1996). The impact of environmental management on firm performance. Management Science, 42(8), 1199-1214.
Lawson, B., & Samson, D. (2001). Developing innovation capability in organisations: A dynamic capabilities approach. International Journal of Innovation Management, 5(3), 377-400.

Lepak, D. P., & Snell, S. A. (1999). The human resource architecture: Toward a theory of human capital allocation and development. Academy of Management Review, 24(1), 31-48.
Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. Academy of Management Review, 22(4), 853-886.
Park, B. I. (2010). What matters to managerial knowledge acquisition in international joint ventures? High knowledge acquirers versus low knowledge acquirers. Asia Pacific Journal of Management, 27, 55-79.
Park, B. I., & Ghauri, P. N. (2015). Determinants influencing CSR practices in small and medium sized MNE subsidiaries: A stakeholder perspective. Journal of World Business, 50, 192-204.
Park, B. I., & Glaister, K. W. (2009). Determinants of knowledge acquisition in Korean international joint ventures: A pre- and post-Asia crisis comparison. Journal of Korea Trade, 13(2), 51-74.
Park, B. I., & Xiao, S. S. (2020). Is exploring dynamic capabilities important for the performance of emerging market firms? The moderating effects of entrepreneurial orientation and environmental dynamism, International Studies of Management & Organization, 50(1), 57-73,
Penrose, E. T. (1959). The theory of the growth of the firm. John Wiley & Sons.
Pera, R., Occhiocupo, N., & Clarke, J. (2016). Motives and resources for value co-creation in a multi-stakeholder ecosystem: A managerial perspective. Journal of Business Research, 69(10), 4033-4041.
Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88(5), 879-903.
Porter, M. E., & Heppelmann, J. E. (2014). How smart, connected products are transforming competition. Harvard Business Review, 92(11), 64-88.
Porter, M. E., & Kramer, M. R. (2011). Creating shared value. Harvard Business Review, 89(1/2), 62-77.
Porter, M. E., & Van der Linde, C. (1995). Toward a new conception of the environment-competitiveness relationship. Journal of Economic Perspectives, 9(4), 97-118.
Rennings, K. (2000). Redefining innovation—Eco-innovation research and the contribution from ecological economics. Ecological Economics, 32(2), 319-332.
Richardson, H. A., Simmering, M. J., & Sturman, M. C. (2009). A tale of three perspectives: Examining post hoc statistical techniques for detection and correction of common method variance. Organizational Research Methods, 12(4), 762-800.
Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. Academy of Management Journal, 40(3), 534-559.
Sachs, J. D. (2012). From millennium development goals to sustainable development goals. The Lancet, 379(9832), 2206-2211.
Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: Categories and interactions. Business Strategy and the Environment, 20(4), 222-237.
Schumpeter, J. A. (1934). The Theory of Economic Development. Harvard University Press.
Scott, W. R. (2001). Institutions and Organizations. Sage Publications.
Shrivastava, P. (1995). Environmental technologies and competitive advantage. Strategic Management Journal, 16(S1), 183-200.
Stefan, A., & Paul, L (2008). Does it pay to be green? A systematic overview. Academy of Management Perspectives, 22(4), 45-62.
Teece, D. J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing, and public policy. Research Policy, 15(6), 285-305.
Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509-533.
United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. United Nations.
Walker, H., Seuring, S., Sarkis, J., & Klassen, R. (2014). Sustainable operations management: Recent trends and future directions. International Journal of Operations & Production Management, 34(5), https://doi.org/10.1108/IJOPM-12-2013-0557
Wagner, M. (2007). On the relationship between environmental management, environmental innovation and patenting: Evidence from German manufacturing firms. Research Policy, 36(10), 1587-1602.
Wright, P. M., Dunford, B. B., & Snell, S. A. (2001). Human resources and the resource-based view of the firm. Journal of Management, 27(6), 701-721.
York, J. G., & Venkataraman, S. (2010). The entrepreneur-environment nexus: Uncertainty, innovation, and allocation. Journal of Business Venturing, 25(5), 449-463.
Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. Academy of Management Review, 27(2), 185-203.