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Building Business Resilience and Sustainability

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Victor S. Sohmen, Co-Editor
Denise V. Siegfeldt, Co-Editor
Marvin Ludlum, Co-Editor

Global Journal of Entrepreneurship
(Special Issue)

Special recognition is provided for Dr. Victor S. Sohmen, the Editor of the *Global Journal of Entrepreneurship* (GJE), whose extraordinary dedication and enormous energy, encouragement, and relentless pursuit of perfected peer-reviewed articles for this Special Issue of the GJE kept things moving on a steady path. Dr. Denise V. Siegfeldt, the Associate Editor of the GJE, is hereby recognized for her sustained efforts in completing the final reviews meticulously, and in grading the selected articles with competence. We also wish to acknowledge Dr. Marvin Ludlum, the Co-Editor ot the GJE, whose alacrity and attention to detail served as a system of checks and balances to help maintain the integrity of this Special Issue.

Jeff Mankin, President
Institute for Global Business Research

INTRODUCTION

This 2024 Special Issue of the *Global Journal of Entrepreneurship* comprises scholarly articles on *building business resilience and sustainability* for entrepreneurship under the prevailing COVID-19 pandemic environment. The twelve topical articles selected for this publication provide a diversity of pointers for entrepreneurs to avail of windows of opportunity, adapt to a rapidly changing scenario, and optimize limited resources under these challenging conditions. As the economic, societal, business, and political systems in which we live are in a state of flux, entrepreneurship is vital, resilience is critical, and sustainability has become an imperative watchword to secure the future.

In the opening article, Yu-Feng Lee revisits Hofstede's culture paradigm to demonstrate that cultural aspects of nations and regions have impacted responses to the pandemic and suggests ways for businesses and communities to tailor their responses constructively by adapting to cultural realities. Next, William Casey looks at the impact of the COVID-19 pandemic on globalization and foreign direct investment (FDI) flows, and how these twin challenges can be tackled for a sustainable future. Robert Fleming explores small-business resilience and customer retention during these uncertain times when spatial distance is introduced between the business and customer due to the contagion of the pandemic. Robert Lahm takes a panoramic view of the entrepreneurial landscape to advise on coping with the constraints presented by the COVID-19 pandemic. To underscore the need for resilience, Jonathan Reed explains how strategic agility can be gainfully leveraged to combat the turbulent environment around us. The Bresslers recognize the stress precipitated by the pandemic and suggest that entrepreneurs challenged by psychological disorders—such as narcissism, attention deficiency, and dyslexia—have a fighting chance of success if they could marshal the positive traits intrinsic to their maladies to overcome obstacles.

Dennis Zocco looks at the financial aspects of commercial lease renegotiation strategies of small businesses for post-pandemic cash flow sustainability and risk mitigation. Stephen Childers and Andrea Stanaland consider how to preserve and sustain innovation and to promote "workplace collisions" in the absence of face-to-face interactions during the pandemic. Brooke Envick provides a continuity template that can be applied to small businesses as a strategic design tool to sustain recurring revenue during times of crisis. Ellen Raineri and Victor Sohmen embark on an empirical study of how socially responsible crowdsourcing can be included in entrepreneurship curricula and invigorate small businesses by tapping into external sources of information to adapt appropriately to a changing scenario. Carlos Aimar and D. K. Smith revisit the popular VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) framework as a management tool for dealing with the kaleidoscopic pandemic environment. In the final article, Murat Arik, Jessikah Riley, Azizakhon Mirsaidova, and Mariyam Sumaiya empirically explore and analyze family businesses to identify frustrations, and threats to their survival.

The mosaic of articles presented in this Special Issue should serve as food for thought, as triggers for critical analysis, and as springboards for further research into the multiple challenges presented by the fluid and evolving pandemic environment. Through identifying needs, seeking alternatives, taking actionable decisions, and continuing the search for viable solutions, we can look forward to adopting multi-pronged and resilient approaches toward a sustainable future through critically informed entrepreneurship in crisis situations—now, and well into the future.

SUSTAINABLE ENTREPRENEURSHIP: SPACEX PAVING THE WAY TO MAKING LIFE MULTIPLANETARY

Ahmed Maamoun, University of Minnesota Duluth

ABSTRACT

To say Elon Musk is a disrupter is quite an understatement. The self-made billionaire has transformed several industries (Electric Vehicles, financial services, space travel, hyperloops, artificial intelligence, etc.). He is also a charismatic marketing genius who is able to create buzz and excitement whenever he speaks or tweets. Privately funded space exploration startups, such as Elon Musk's SpaceX and Jeff Bezos's Blue Origin, have made giant strides in efforts to send humans to other planets. However, both companies built expendable launch vehicles (ELVs) that are used only once. Typically, the rocket has been the most expensive component in the preparation of a space trip. It consists of tremendous amounts of alloys, metals, plastics, minerals, conductors, pollutants; that are essentially used once. The environmental costs are substantial. Musk and SpaceX's R&D team had been working on developing a reusable rocket, Falcon 9, to reduce the cost of spaceflights and minimize environmental damages. The rocket is a new-to-the-market product exemplifying disruptive technology. For a price, SpaceX was planning on taking civilians to outer space, the moon, and even Mars. SpaceX went through six of the seven steps in the new-product development process (idea generation, idea screening, concept development and testing, business analysis, product development, test marketing).

The Falcon 9 market testing phase was completed in 2023; and product launch (commercialization) was set for 2024. The stakes couldn't be higher. The new product, Falcon 9, could not only determine the future of the company but possibly that of the entire space tourism and travel industry. The paper utilizes two marketing concepts (Diffusion of Innovation and Product Life Cycle) to predict the prospects of SpaceX and the space industry as a whole. The paper also strives to explain how innovation can give a company a first-mover's advantage and shape the viability of a new industry.

Keywords: *Innovation, Entrepreneurship, First-Mover Advantage, New Product Development, Product Life Cycle, Sustainability.*

INTRODUCTION

The South African-Canadian-American entrepreneur, Elon Musk, is best known for his cosmic imagination and risk-taking drive to bring about a more high-tech world. Musk has an impressive resume and a knack for founding avant-garde companies, with SpaceX as the crown jewel. He is promising to get rid of internal combustion engines and fossil fuels. He is promising 100% self-driving cars with zero emissions. He is promising hyperloops below Earth and colonies on Mars. Fortunately, he has the passion and the money to make it happen. Known for the companies he has founded or developed including PayPal, Tesla, and SpaceX, Elon Musk has had a gigantic impact on multiple industries and is poised to have a major influence on the space industry in particular (Vance, 2020). It is safe to say that the self-made billionaire is striving to revolutionize mobility both on Earth and in space, and has become the world's richest person in the process. Musk is the world's wealthiest entrepreneur with a net worth of $250 billion (Forbes, 2023).

Musk and his R&D teams worked diligently to put new products on the market. They went through the new-product development (NPD) process on a daily basis. The reusable rocket, Falcon 9, is a classic example of how an entrepreneur can utilize the NPD process to create a sustainable product that transforms an entire industry (Musk, 2017).

SUSTAINABLE ENTREPRENEURSHIP

Sustainable entrepreneurship, also known as green or eco-entrepreneurship, refers to the practice of starting and growing a business that focuses on addressing social and environmental issues without negating the drive for profit. The goal of sustainable entrepreneurship is to create a positive impact on the planet, society, and the economy by integrating principles of sustainability into business operations.

Key features of sustainable entrepreneurship include (Elliott, 2022):

Triple Bottom Line: Sustainable entrepreneurs aim to achieve a triple bottom line, which considers not only financial success but also social and environmental outcomes. This is often summarized as "people, planet, and profit."

Environmental Responsibility: Sustainable entrepreneurs prioritize environmental sustainability by adopting eco-friendly practices, reducing resource consumption, minimizing waste, and promoting conservation.

Social Impact: In addition to environmental considerations, sustainable entrepreneurship emphasizes social responsibility. This may involve creating products or services that address social challenges, improving working conditions, or contributing to local communities.

Innovation: Sustainable entrepreneurs often seek innovative solutions to address social and environmental issues. This could involve developing new technologies, business models, or products that have a positive impact.

Ethical Supply Chains: Ensuring that the entire supply chain is ethically managed is a common practice in sustainable entrepreneurship. This includes sourcing materials responsibly, treating workers fairly, and promoting transparency.

Long-Term Perspective: Sustainable entrepreneurs typically adopt a long-term perspective, considering the enduring impact of their business decisions on the environment, society, and the economy.

Stakeholder Engagement: Engaging with and considering the interests of various stakeholders, including employees, customers, local communities, and investors, is a fundamental aspect of sustainable entrepreneurship.

Sustainable entrepreneurship is driven by the recognition that business success is interconnected with the health of the planet and the well-being of society. It reflects a shift towards more responsible and conscientious business practices in the face of global challenges such as climate change, resource depletion, and pollution. Musk is a strong advocate of sustainable entrepreneurship and his vision could be seen in how the Falcon 9 was developed and manufactured. SpaceX's commitment to reusability aligns with sustainability goals by reducing resource consumption and waste associated with traditional expendable rocket designs. The Falcon 9 is best known for its reusable design, which contributes to sustainability in spaceflight. The rocket is designed to be recovered, refurbished, and reused for multiple launches. This reusability feature is aimed at reducing the cost of space access by minimizing the need for building new rocket components for every launch (Rich, 2018).

SPACEX PIONEERS REUSABLE ROCKETS

The Falcon 9 rocket went through six of the seven steps of the new-product development process, and the November 2023 launch would determine if the company could move forward with the last step. The new-product development process typically consists of the following steps (Zomerdijk & Voss, 2011): idea generation, idea screening, concept development and testing, business analysis, product development, test marketing, and commercialization.

1. **Idea Generation:** Space tourism and travel has been a topic of fascination for humans ever since the first man stepped on the moon in 1969. In the 1980s, the world's two superpowers (USA and Russia) revealed plans to send civilians into space, but the idea failed to gain traction. It was not until the early 2000s that space tourism became a reality with the launch of the first privately funded spaceflight by SpaceShipOne in 2004. Several private companies were founded that opened a whole new frontier for human space exploration and adventure after the aircraft/rocket hybrid completed the first, crewed, private spaceflight. However, those private companies built expendable launch vehicles (ELVs) to be utilized only once. The Falcon 9 reusable rocket idea was that of Elon Musk, the CEO of SpaceX, as part of his vision to reduce the *skyrocketing* cost of spaceflights and to send humans to Mars. During this phase of new product development, his team also expounded upon Russian scientist Konstantin Tsiolkovsky's 1895 idea of building a gigantic space elevator, or orbital lift that could take humans to the moon and eventually to other planets (Mellor, 2021).

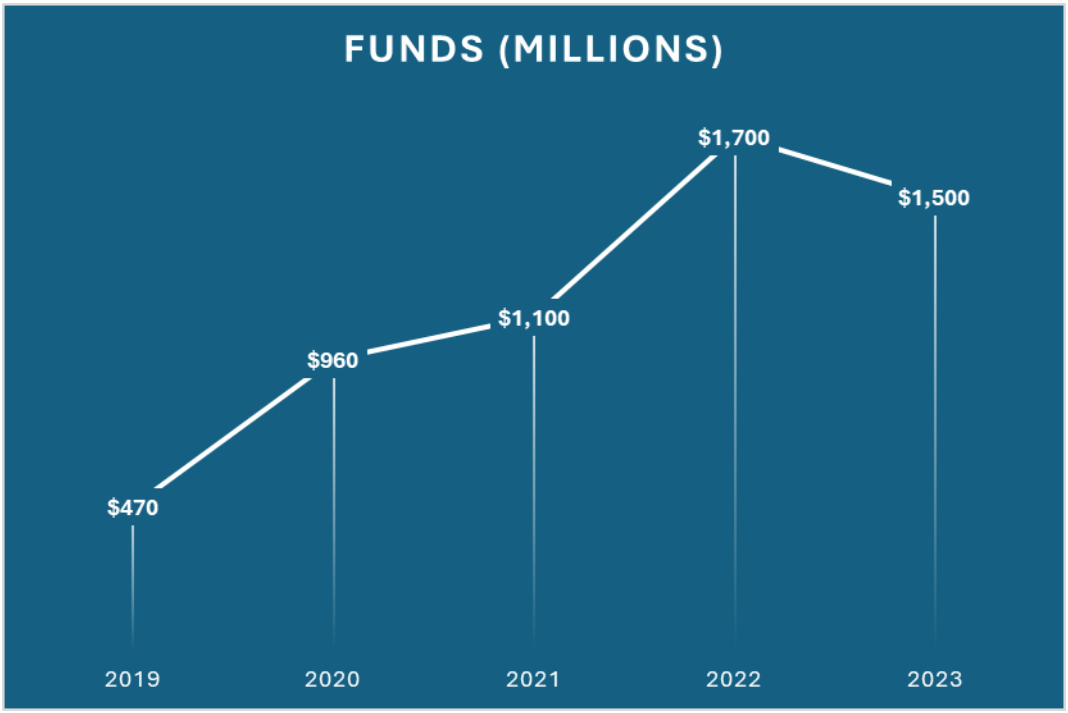
2. **Idea Screening:** At the time, Musk rejected the space elevator, citing potential issues with safety, regulatory compliance, and liability and continued to push forward with the reusable rocket idea. Musk and his team asked (and answered) key questions, such as: a) can the rocket be developed and marketed within the time and budget constraints of SpaceX? and (b) is the

proposed product within the company's ability to produce? The idea for the Falcon 9 rocket was unanimously agreed upon (by both the board and R&D team) to move forward in the NPD funnel. SpaceX conducted a feasibility study to determine whether the proposed rocket was technically and financially feasible. The study included a review of the available resources and analysis of the technology required to turn the idea into reality.

3. **Concept Development and Testing:** Once the feasibility study was completed and the idea was deemed viable, SpaceX began to develop the concept for the Falcon 9 rocket. This involved creating a detailed design specification, identifying the key components and raw materials required, and identifying the suppliers, partners, and logistics needed to build the rocket

4. **Business Analysis:** Before proceeding with the development of the Falcon 9 rocket, Musk and his team conducted a detailed business analysis to determine the financial viability of the project. This included estimating the development and production costs, analyzing the potential market demand, determining the break-even point per launch, and identifying the potential revenue streams (Martin, 2018). The company raised almost $6 billion from 2019 to 2023 (Figure 1). SpaceX was willing to take risks and invest significant resources to develop reusable rocket technology that could substantially lower the cost of going to space and eventually mainstream space travel (Hull, 2018).

Figure 1. Money Raised Through Funding Rounds by SpaceX (2019 – 2023)

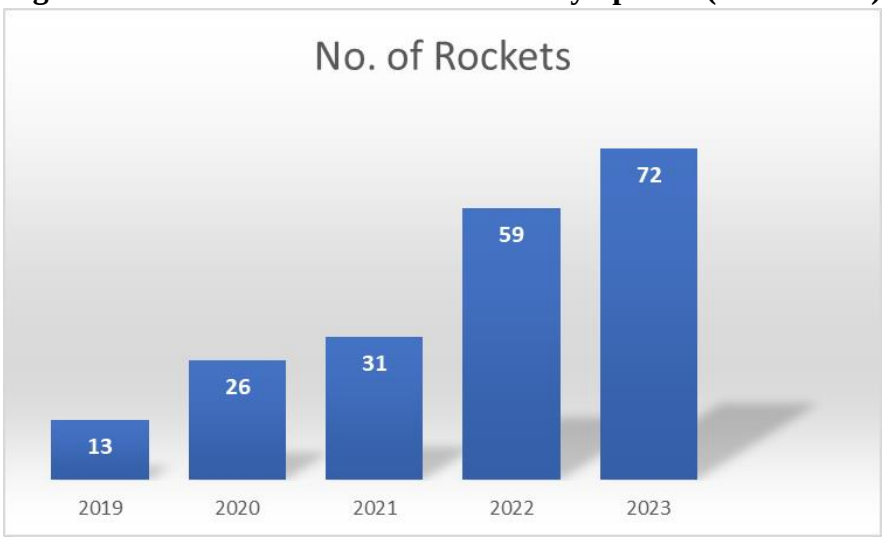


Source: Statista (2023)

5. **Product Development:** With the business analysis completed and the concept for the Falcon 9 rocket fully developed, SpaceX began the product development phase. This involved building prototypes, conducting tests, and refining the design based on the results of the testing. A dozen prototypes were built and launched. SpaceX's reusable rockets were consistently improved to be more cost effective than traditional single-use rockets (Bennett, 2018).

6. **Market Testing:** Once the Falcon 9 rocket was fully developed, SpaceX conducted market testing to determine how well the rocket would be received by the company's niche target market. This involved conducting test launches (crewed and un-crewed) and receiving feedback from potential customers and stakeholders. There were approximately 200 Falcon 9 launches over the last five years (Figure 2). Unfortunately, SpaceX experienced a total of four Falcon 9 rocket explosions during the market testing phase (Einhorn, 2022). The most recent explosion took place in November 2020, during a mission to launch the Sentinel-6 Michael Freilich satellite. It's noteworthy that while these incidents were setbacks for SpaceX, the company has learned from them and continued to improve its proprietary rocket technology (Hull & Johnsson, 2020).

Figure 2. Number of Rockets Launched by SpaceX (2019 - 2023)



Source: Statista (2023)

7. **Commercialization (Product Launch):** Finally, with the market testing completed and the Falcon 9 rocket fully developed, SpaceX launched the product commercially and was on the cusp of selling seats to customers interested in going to the edge of space, the moon, and even Mars. The company continues to refine and improve the Falcon 9 as it strives to make space travel more accessible and affordable.

In brief, Falcon 9 is the world's first orbital class reusable rocket. Reusability allows SpaceX to re-fly the most expensive component of the trip, which in turn drives down the cost of space travel. Although this process may appear linear, Musk knew he would constantly have to

backtrack to earlier process stages when issues arose. The Falcon 9 rocket has introduced several innovations in the space industry that aim to improve sustainability compared to traditional rockets (Vanham, 2023).

Reusable Technology: One of the key sustainability features of the Falcon 9 is its reusability. The first stage of the rocket is designed to be recovered and reused for multiple launches. This can potentially reduce the overall cost of space travel and minimize the environmental impact associated with manufacturing new rockets for each mission.

Reduced Cost: By reusing rocket components, SpaceX aims to make space travel more cost-effective. Lowering the cost of launching payloads into space can make space exploration and commercial activities more accessible and economically viable.

In conclusion, the Falcon 9's reusability features contribute positively to its sustainability compared to traditional expendable rockets. However, assessing the full sustainability of space activities involves considering the broader ecosystem of manufacturing, launch, and orbital practices. It's important to note that the overall sustainability of space activities involves various factors beyond rocket reusability, such as the environmental impact of rocket propellants, space debris management, and the responsible use of space resources (McHale, 2022).

DIFFUSION OF INNOVATION AND PRODUCT LIFE CYCLE

Before moving to the final step of commercialization, Musk knew he needed to forecast two factors associated with any new product/technology: diffusion of innovation and product life cycle. Diffusion of innovation describes how new ideas, products, or technologies are adopted by consumers over time. Consumers fall into five categories: innovators, early adopters, early majority, late majority, and laggards. Each group has different characteristics that influence their decision to adopt an innovation (Rogers, 1962). Musk envisioned SpaceX's Falcon 9 reusable rockets would have the following types of customers:

1**. Innovators:** For Falcon 9, innovators would be the handful of billionaires willing to take overwhelming risks and pay staggering amounts of money to go to outer space, the moon, and Mars. They are adventurers obsessed with the idea of newness and unafraid to take risks when it comes to trying new experiences, even if they fail. They take pride in being the first ones to try something (Grush, 2023).

2. **Early Adopters:** Early adopters would be the dozens of wealthy and risk-taking space enthusiasts. They would recognize the potential cost savings and efficiency gains of using a reusable rocket and would be willing to take a chance on this new technology. They are opinion leaders and are content to be second to try something.

3. **Early Majority:** The early majority would be the hundreds of ultra-rich customers who are now more comfortable using reusable rockets after seeing the success of SpaceX. They are more risk-averse than the early adopters but still recognize the benefits and possibilities of space travel. By the time the early majority buy a product, more competitors have entered the market; this group will have some choice as to which space company to fly with.

4. **Late Majority:** The late majority would be the group that adopts new technologies only after they are well-established in the market. In the case of Falcon 9, the late majority would

be relatively rich customers who are hesitant to use reusable rockets until they became the norm in the industry.

5. **Laggards:** Laggards are the last group to adopt new technologies, if at all. In the case of Falcon 9, laggards would be the average consumers who use the technology only after it has become mainstream. They pay the lowest price and take the least amount of risk. Most likely laggards won't be taking space flights in this century!

The product life cycle (PLC) is a useful framework for analyzing the evolution of a product or service over time, from its introduction to its eventual decline. The space tourism industry is a new and emerging sector that has yet to reach the growth phase, but we can still apply the concept of the PLC to gain insights into space tourism's potential trajectory. This industry refers to the promising business sector focused on providing commercial, recreational trips to outer space and other planets for private individuals. The industry aims to make space travel more accessible and affordable to the public, offering a range of experiences such as suborbital flights, orbital stays, and lunar expeditions. Musk knew he had to keep an eye on the competitive landscape. Beside SpaceX, key players in the space tourism industry include (Grush, 2022):

Blue Origin: Founded by Amazon's Jeff Bezos, Blue Origin is developing the New Shepard rockets for suborbital space tourism, allowing passengers to experience a few minutes of weightlessness and view Earth from the edge of space. Blue Origin is also planning to send humans to the moon on the New Glenn rocket as early as 2024 (Bohannon, 2023).

Virgin Galactic: Founded by Sir Richard Branson, Virgin Galactic is developing the SpaceShipTwo vehicle for suborbital space tourism. Passengers will experience several minutes of weightlessness during a parabolic flight trajectory before returning to Earth.

Axiom Space: A private company focused on developing a commercial space station, Axiom Space aims to offer private stays in space for both tourists and scientists.

Orion Span: A California-based company founded by Frank Bunger. This startup has announced plans to build a luxury space hotel, the Aurora Station, which would orbit Earth and accommodate guests for short-term stays. Orion Span claims to have a waiting list for trips to the space hotel. Tickets start at around $10 million per person.

SpaceX has a pioneering advantage over its competitors. The company's reusable rocket technology is proprietary, meaning it is owned by the company and not available for others to use without permission. SpaceX has invested significant time and resources into developing its Falcon 9 rocket. The company has filed many patents to protect its valuable intellectual property. However, this does not downplay competitive threats. All five companies have great resources and even greater aspirations to take the space tourism industry to a whole new horizon.

Musk predicted the industry to go through these stages (Case & Bachman, 2021):

1. **Introduction:** The space tourism industry is currently in the introduction phase, with a small number of companies offering suborbital flights to wealthy individuals. This phase is characterized by low sales, high marketing and R&D costs, and limited consumer awareness.

2. **Growth:** As space tourism becomes more established and accessible, Musk expects a period of rapid growth. This phase will be marked by increasing consumer demand, as well as more competition and innovation in the market in the next few decades. New players may enter

the industry, and existing companies will seek to expand their offerings and improve their technology and infrastructure.

3. **Maturity:** As the industry becomes more established and mainstream by the end of the century, Musk foresees a period of slower growth and more stable sales. Competition will be fierce, and companies will need to focus on differentiation and cost leadership to maintain their market share. The industry may also face regulatory challenges as it becomes more widespread. Sales and profits will begin to drop in the maturity stage as competition increases and customers begin to look for the next big thing (Lee & Chen, 2009).

4. **Decline:** Ultimately, the space tourism industry may reach a decline phase, either due to oversaturation, technological obsolescence, or changing consumer preferences. However, given the relatively early stage of the industry, Musk predicted a decline would occur in the next century or two, and he wasn't very concerned that sales and profits would fall off completely during the decline stage.

The space tourism industry is currently in the introduction phase of the product life cycle, with significant potential for growth and expansion in the coming decades. However, as with any emerging industry, there are also risks and uncertainties that must be navigated to achieve long-term success. Sending humans to the moon or Mars is obviously a more complex and expensive undertaking that requires significant investment and resources. A trip to the moon typically takes around three days from Earth to lunar orbit. On the other hand, a trip to Mars takes significantly longer due to the greater distance between Earth and Mars. Depending on the alignment of the planets at the time of launch, a trip to Mars can take anywhere from six to nine months one way.

SpaceX's Falcon 9 is a new-to-the-market product exemplifying disruptive technology. The groundbreaking reusable rocket displaces an established technology (ELVs) and shakes up the space industry. Traveling to the moon or even Mars by people other than astronauts has become more of a reality. For space tourism to become mainstream, the industry must be profitable enough to motivate privately funded companies to undertake the staggering costs and long-drawn-out R&D processes required to make space travel safe and affordable. This demonstrates the significance of pricing and generating revenue in the introduction and growth stages. SpaceX has a first-mover's advantage space tourism, and Elon Musk has the vision to capitalize on that. Clearly, the introduction of a new product is a vast undertaking with a lot of open-ended questions, even for a prominent, multi-billion-dollar company.

For thousands of years people lived their entire lives and rarely saw a new product. This changed with phenomenal advancements in transportation and communication technologies. This highlights the significance of innovation and having a pioneering advantage. First-mover's advantage can generate an edge that could be very hard to duplicate. Most people know who was the first person to fly solo across the Atlantic Ocean? A lot of people know that the first man was Charles Lindbergh and the first woman was Amelia Earheart. In 1927, Lindbergh flew solo for 33.5 hours from New York to Paris. His trip ushered in a new era in the history of aviation. However, many people do not know who was the second person to fly solo across the Atlantic? Nobody knows and probably nobody cares! Therein lies first-mover's advantage—people only remember the first.

SUSTAINABILITY IN SPACE TRAVEL INDUSTRY

Sustainability in the space travel industry refers to the efforts and practices aimed at minimizing the environmental impact and resource consumption associated with space exploration and related activities. The space travel industry has traditionally been resource-intensive and associated with significant environmental challenges. However, as space exploration and commercial activities in space increase, there is a growing recognition of the need to adopt sustainable practices to mitigate negative effects on Earth and space environments.

Key aspects of sustainability in the space travel industry include (Elliott, 2022):

- Reducing Environmental Impact: Space launches, rocket propellants, and space debris can contribute to environmental pollution and impact Earth's atmosphere. Sustainable practices involve developing cleaner propulsion technologies, minimizing the use of harmful substances, and addressing the issue of space debris through responsible satellite and spacecraft disposal methods.
- Resource Utilization: Sustainable space exploration involves finding ways to use resources efficiently, both in terms of materials and energy. This includes exploring in-situ resource utilization (ISRU), where resources available on other celestial bodies, such as the Moon or Mars, are used to support human activities rather than relying solely on Earth-sourced materials.
- Reusable Technology: Developing reusable launch vehicles and spacecraft is a key aspect of sustainability. Reusability can significantly reduce the cost of space exploration and decrease the environmental impact associated with manufacturing and launching single-use vehicles.
- Alternative Propulsion: Research into alternative and more environmentally friendly propulsion systems, such as electric or ion propulsion, is another avenue for sustainability in space travel. These systems can be more efficient and produce fewer harmful by-products compared to traditional chemical propulsion.
- International Collaboration: Collaboration between countries and space agencies can lead to more sustainable practices by sharing knowledge, resources, and technology. International agreements and guidelines for responsible space activities can help ensure that space is used sustainably and for the benefit of all nations.
- Space Habitat Design: For long-duration space missions or the establishment of colonies on other celestial bodies, designing habitats with sustainability in mind is crucial. This involves recycling systems, closed-loop life support, and energy-efficient technologies.
- Education and Outreach: Raising awareness and educating the public about the environmental impact of space activities and the importance of sustainability can foster a sense of responsibility and encourage the adoption of sustainable practices in the industry.

Sustainability in the space travel industry is a multifaceted challenge that requires technological innovation, international cooperation, and a commitment to responsible and ethical practices to ensure the long-term viability of space exploration.

CONCLUSION

The reusability of the Falcon 9 rocket is considered a step toward more sustainable space exploration. It helps to lower launch costs and reduce the environmental impact associated with manufacturing new rocket components for each mission. Additionally, the development of reusable rocket technology has the potential to make space exploration more economically viable and sustainable in the long run. SpaceX has been working towards the goal of making space travel more sustainable and reducing the cost of space exploration. Sustainability, in this context, can be interpreted in various ways.

Environmental Impact: SpaceX's reusable rocket technology, demonstrated through the Falcon 9 and Falcon Heavy rockets, is a significant step towards reducing the environmental impact of space launches. Reusability lowers the cost of launches and reduces the need for manufacturing new rocket components for each mission.

Market Competitiveness: By lowering the cost of launching payloads into space, SpaceX has increased access to space for various entities, including commercial satellite companies and government agencies. This has led to increased competition and innovation in the space industry.

Space Exploration and Colonization: SpaceX's long-term goals include making life multiplanetary by establishing human colonies on Mars. While this is a challenging and ambitious objective, success in this area could contribute to the long-term sustainability of human civilization beyond Earth (Droste, 2023).

However, it's important to note that the term "sustainability" can also be applied to a company's financial health. As of my last update, SpaceX has achieved several milestones and secured contracts with NASA and commercial customers, contributing to its financial stability. Continued success in securing contracts, advancing its reusable rocket technology, and achieving its Mars colonization goals will likely play a role in the company's long-term sustainability. It's important to note that the timeline for these plans is highly ambitious and subject to change based on various factors, including technical challenges, regulatory approvals, and funding. For the latest information, checking SpaceX's official announcements and news updates.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON VENTURE CAPITAL SOURCING AND DUE DILIGENCE

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ABSTRACT

This paper investigates the transformative influence of Artificial Intelligence (AI) on Venture Capital (VC) sourcing and due diligence processes. Defined within the VC context as technologies simulating human intelligence, encompassing Machine Learning (ML), Natural Language Processing (NLP), and predictive analytics, AI emerges as a potential solution to challenges in traditional manual methods. Recognizing limitations like bias, subjectivity, data overload, ethical problems, and other adverse effects of AI on VC industries, the study emphasizes the need for innovation and its possible adverse effects. The overview of AI technologies in VC details applications underscores the growing importance of innovation's role in automating tasks. Nevertheless, VC firms use AI across their workflow to complement their team's skill set and decision-making, guiding everything from sourcing and due diligence that can expand to portfolio management, exit, and global dimensions. The potential disruptions and opportunities underscore the importance of responsible AI use, ethical considerations, and a prudent approach to leverage technology for informed decision-making and sustainability.

Keywords: *Artificial Intelligence (AI), Venture Capital (VC), Sourcing, Due Diligence, Sustainability*

[1] The authors greatly appreciate valuable comments by co-editor, Denise Siegfeldt, Jiun-Lin Chen, Ann Skeet, anonymous reviewers, and the 2024 Academy of Finance (AOF) conference participants.

INTRODUCTION

This paper addresses how venture capital firms integrate Artificial Intelligence (AI) into their investment processes for sustainability. And where do current opportunities for integration lie? We also examine the challenges (ethical, technical, financial, and societal) that the adoption of AI poses for venture capital firms. In particular, we focus on the role and importance of sourcing and due diligence. Sourcing of VC involves identifying and attracting potential investment opportunities. Effective sourcing ensures that VC firms have a diverse pipeline of startups to evaluate. VC due diligence encompasses the comprehensive examination of a potential investment, including assessing the founding team, market potential, financials, and associated risks. Thorough due diligence is critical for making informed investment decisions.

Schmidt (2019), Scabbio (2022), Bonelli (2022), and Miyamoto et al. (2023) have recently addressed the question of how AI is applied to VC industries in their unpublished master's thesis, Ph.D. dissertation, and conference proceedings but not in any academic finance journal publication yet. One notable exception is Houser and Kisska-Schulze's study (2023), published in the UC Irvine Law Review.

Previous studies discussed the potential benefits of AI adoption on VC's fundraising, due diligence, investment processes, and exit lifecycles. Schmidt (2019) used the interview method with VCs to discuss a few case studies of AI adoption on VCs' decision-making. Scabbio (2022) examines a similar question of the impact of AI adoption on the VC industry in terms of its benefits and some discussions of limitations. Bonelli (2022) expands the related question and asks about the potential causality of AI application on VC's decision-making and vice versa. Houser and Kisska-Schulze (2023) suggest that less than 3% of VC funds go to female-led startup teams and less than 1% to racially diverse founders. They claim that this is especially perverse given that diverse startups, when funded, appreciably outperform male-only founding teams.

Miyamoto et al. (2023) investigate the relationship between the expansion of social recognition of AI and the entry of VC investment into this area and whether VCs that invested earlier in the AI area over-performed their peers. As a result, VC entry into AI has expanded with the growth of social recognition. Still, VCs that invested in the AI area earlier and accumulated AI investment experience do not necessarily have a higher probability of achieving an exit. However, these studies are primarily mute regarding the potential adverse effects of AI on VC industries. This paper uses a few case studies to examine the benefits side on one hand. It stipulates other ethical, opposing, and cost sides of AI adoption in VC industries in the early sourcing and due diligence stages. The incremental contribution of this paper lies in contemplating the adverse effects of AI application on VC industries and costs, including ethical, regulatory, technical, and societal, in addition to its discussion on the benefit sides of sourcing and due diligence. We consider both ethical and adverse effects of AI on VC deal sourcing and due diligence as pivotal because the application of AI to VC and private equity is increasing, with potential ignorance of ethical aspects and a few behavioral biases in conjunction with a lack of human skills, experience, and intuition.

In the context of venture capital (VC), AI is the application of advanced technologies that enable machines to simulate human intelligence, analyze data, and autonomously make informed decisions. AI encompasses various subfields, including machine learning, natural language processing, and predictive analytics, which collectively enhance the efficiency and effectiveness of VC processes, eventually for a sustainable VC segment.

Over the past couple of years, the growth in AI has been extremely rapid; "however, it is only recently that VC investors have started to shift their focus from merely investing in AI companies to understanding AI's potential application to their industry" (Scabbio, 2022). Rimol and Costello (2021) at Gartner, Inc. have estimated that only 5% of VCs and early-stage investors were using AI technologies for decision-making in 2021. They forecast that more than 75% of VCs, PE companies, and early-stage investors will use AI in their decision-making processes by 2025. The findings reveal that AI can be applied to all decision-making steps. However, it is primarily implemented only at the beginning of the value chain, during deal sourcing and due diligence. Over the next few years up to 2030, the market size of AI is expected to grow 788.64% from $207.9 billion to $1,847.5 billion worldwide (see Figure 1 below).

Venture capital firms play a pivotal role in the entrepreneurial ecosystem by providing funding and strategic guidance to early-stage and high-potential startups. These firms invest in innovative businesses with high-growth potential in exchange for equity ownership. The success of VC investments hinges on the ability to identify promising opportunities and conduct thorough due diligence to mitigate risks. VC firm managers (general partners) act as financial intermediaries between investors (limited partners) and startups (portfolio companies). They seek to identify and invest in startups that demonstrate disruptive technologies, scalable business models, and the potential for significant returns (Gompers & Lerner, 2001).

Venture capital is a high-risk industry, with many start-ups failing to generate sufficient returns. AI has emerged as a valuable tool to enhance venture capitalists' decision-making processes and mitigate risks. The integration of AI in venture capital can complement human decision-making, improve success percentages, and contribute to the industry's overall growth, success, and sustainability (Pal, 2024).

Dr. Mohammad Rasouli, a Stanford University AI researcher and Founder and CEO of AIx2, was cited in a Forbes article on venture capital as indicating that AI has the power of "generating unparalleled investment opportunities – commonly referred to as "alpha." (Predin, 2024). Rasouli was mentioned in the article as explaining "how leading firms like Sequoia, A16Z and Tiger Capital are harnessing AI to not only streamline their processes but also to uncover hidden gems in the vast ocean of investment opportunities" (Predin, 2024).

Although venture capitalists understand investments, markets, and associated risks, they still can make unfavorable decisions. Investing in early-stage companies with innovative ideas or products has always carried inherent risks. Therefore, redefining the venture capital model is unnecessary, as it would undermine its essence. Instead, venture capitalism could enhance its capabilities by improving the evaluation of investment opportunities. This is where AI can contribute through data analysis, predictive analysis, portfolio management, due diligence, and deal sourcing. AI can complement human decision-making in this domain for sustainability.

Integrating AI technologies into VC processes marks a transformative shift, revolutionizing how venture capital firms source and conduct due diligence on potential investments (Bogoslaw, 2023). AI brings unprecedented capabilities to analyze vast amounts of data, automate repetitive tasks, and extract meaningful insights, thereby enhancing the speed, accuracy, and objectivity of decision-making in the dynamic landscape of venture capital. This paper explores the multifaceted impact of AI on VC, examining its role in reshaping traditional methodologies and the ethical and financial burden its use may have on investments. Recently, VCs have not just been investing in software; they have started building their own. The first use can be found in emerging startups.

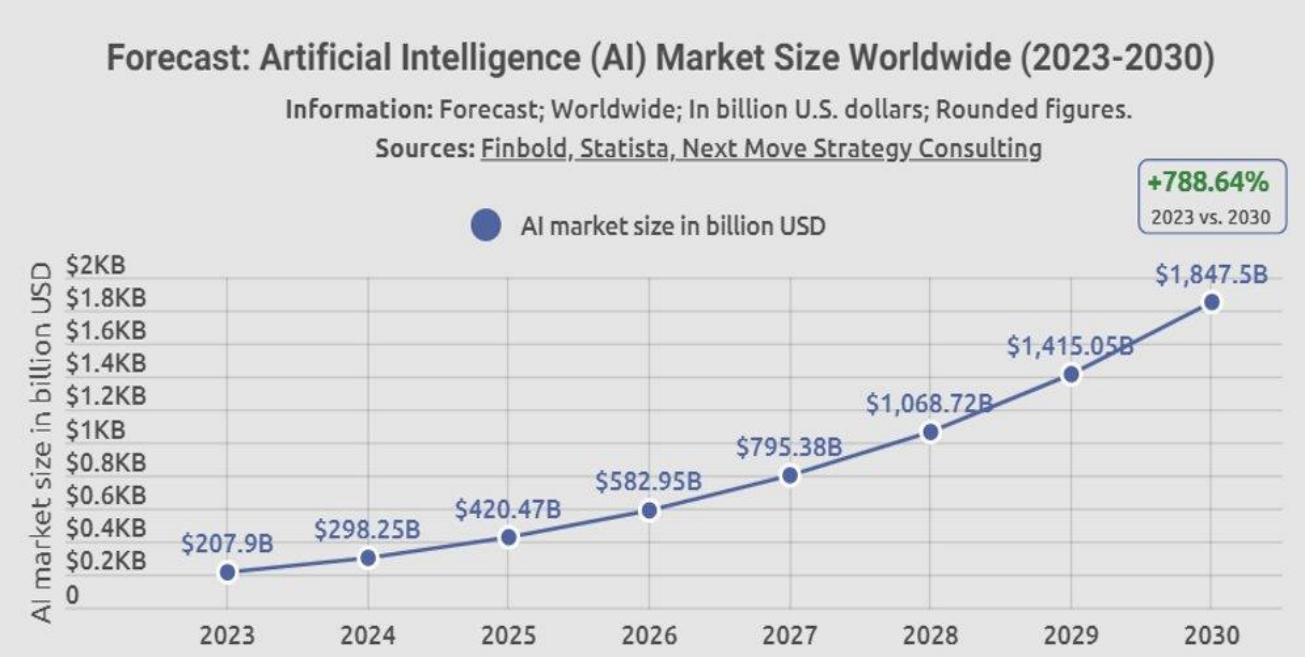
However, ethical examination of AI usage in the VC area is scarce. The Markkula Center for Applied Ethics and its Institute for Technology, Ethics, and Culture (ITEC) at Santa Clara University released a survey report (December 20, 2023), *Ethics in the Age of AI*, which surveyed 3,000 Americans aged 18+ about AI and ethics, and discovered the sample's areas of concern in terms of technology's impact on humanity.

The survey report suggests that the rapid advancement of technology, specifically AI, has made many users wary of its consequences. Two-thirds of Americans surveyed are concerned with AI's impact on the human race. Eighty-six percent believe technology companies should be regulated, with 82% caring whether AI is ethical. Seventy percent of Americans believe AI companies should temporarily stop developing the technology to allow time to consider its impact on society. In addition, half (51%) of Americans do not trust companies that are creating AI.

Ethics Center Senior Director of Leadership Ethics Ann Skeet and Director of Technology Ethics Brian Green, both co-authors of *Ethics in the Age of Disruptive Technologies: An Operational Roadmap*, offered words of advice to both technologists and users to ease these fears. "AI companies are currently engaged in a heated race to develop superior technology," said Green. "Sometimes, this means that companies are not stopping to think about the full ethical implications of what they are creating or the impact on the general public. However, the survey results speak for themselves–the general public cares about ethics in technology, particularly concerning AI." Skeet suggests plenty for leaders to pay attention to in these findings. "People do not trust AI companies or believe the companies developing AI are thinking about ethics. This might explain why so many believe in AI regulation and the government's role in providing it. Leaders can take this opportunity to build trust with key stakeholders by using ethics as they build their AI systems and their corporate cultures."

The survey results and the statements of Green and Skeet (2023) suggest the growing importance of AI usage's ethical and other adversarial effects in VC. We consider both the ethical and adverse effects of AI in the VC to be pivotal in future AI adoption in the venture capital and private equity area (see Section IV for our analysis).

Figure 1: The Artificial Intelligence market size forecast worldwide (2023-2030)
(Source: Finbold, Statista, Next move strategy consulting).



The paper proceeds as follows: Section II presents VC and traditional sourcing and due diligence. Section III briefly illustrates the usage of AI in VC sourcing and due diligence using a few case studies. Section IV discusses AI's ethical and adverse effects in VC industries and related costs, and Section V presents future innovation trends. Section VI concludes.

VENTURE CAPITAL AND TRADITIONAL SOURCING/DUE DILIGENCE

Explanation of the Traditional Methods Used by VC Firms

Venture capital firms traditionally rely on a combination of manual processes and human expertise to vet potential investment opportunities. Traditional sourcing and due diligence elements include networking and referrals, pitch meetings, market research, and financial analysis. VC firms often leverage personal and professional networks to discover investment prospects.

Recommendations from trusted sources play a crucial role in bringing potential startups to the attention of venture capitalists. Entrepreneurs typically pitch their business ideas in person with VC representatives. These sessions allow investors to assess the business model, the competence of the founding team, and the market potential. Manual research is conducted to understand industry trends, market dynamics, and the competitive landscape. This process

involves studying reports, attending conferences, and staying informed about the latest developments in relevant sectors. VC firms manually analyze financial statements, projections, and historical performance to assess potential investments' financial health and growth prospects. This often involves comprehensively evaluating revenue models, cost structures, and potential risks.

Challenges and Limitations of Manual Processes

While traditional methods have been effective, they have inherent challenges and limitations, such as limited ability to scale, bias and subjectivity, and data overload. Manual processes are time-consuming, restricting the investments a VC firm can explore within a given timeframe. This can result in missed opportunities and reduced competitiveness. Whether they are centered around personal experiences, industry trends, or the entrepreneurs' reputation, human judgment is susceptible to biases, which can result in suboptimal investment decisions. The volume of available information for analysis has increased exponentially, making it challenging for human analysts to process and extract relevant insights efficiently. This data overload can lead to oversight and hinder effective decision-making.

In addition, the traditional methods of valuing and selecting investments in the VC industry are often flawed and can lead to misaligned incentives and distorted valuations. This is where AI may be beneficial. By harnessing the power of AI, VCs can revolutionize their investment strategies, making them more efficient, accurate, and aligned with the goals of investors and startups (Nadel, 2023).

The Need for Innovation in Sourcing and Due Diligence

Recognizing the challenges posed by manual processes, there is a growing recognition within the venture capital industry of the need for sourcing and due diligence innovation (Nanalyze, 2021). The dynamic nature of the startup ecosystem, coupled with advancements in technology, has paved the way for integrating AI and ML into traditional VC practices. These technological advancements aim to address the limitations of manual methods, enhance efficiency, and provide a more data-driven and objective approach to decision-making in the venture capital landscape. In the subsequent sections, we will delve into how AI is revolutionizing the sourcing and due diligence processes for VC firms.

Overview of AI Technologies in VC

In the realm of VC, AI unfolds a spectrum of applications, including Machine Learning (ML), Natural Language Processing (NLP), predictive analytics, and Robotics Process Automation (RPA).

Machine Learning helps analyze vast datasets, combing through startup databases and social media to pinpoint trends and potential investments. It streamlines due diligence by automating the scrutiny of financial and legal data, aids in portfolio management, and provides insights into future trends and risks. Natural language processing takes center stage in parsing

unstructured data and extracting sentiment from news articles and social media to inform investment decisions. It automates report generation, organizes information, and keeps professionals abreast of market trends and emerging technologies. Predictive Analytics aids in estimating future success, generating financial forecasts, and evaluating risks during due diligence. Robotics Process Automation enters the scene to automate repetitive tasks, enhancing operational efficiency. It tackles data entry, validation, and extraction from various documents. RPA also streamlines portfolio management and routine communication, elevating overall efficiency within VC firms. By harnessing these AI technologies, VC firms bolster their decision-making prowess, operational efficiency, and competitive edge in the ever-evolving investment landscape.

Use of AI in Sourcing

Sourcing is one of the critical aspects of VC that has the potential to be impacted by the implementation of AI. Several innovative firms prominently exemplify the integration of AI into sourcing strategies. Signalfire, for instance, employs the Beacon platform, a real-time data system powered by AI, to meticulously analyze market trends and identify potential investment sectors. This platform scrutinizes over 10 million data sources, including academic publications, patent registries, and social networks, offering valuable insights into companies that outperform and activities of note. Similarly, Blossom Capital adopts a data-centric approach to venture investment, leveraging AI to cover cities often overlooked by conventional methods. Their models prioritize visionary founders, robust teams, and category-defining products, aiming to identify exceptional startups before they gain widespread recognition.

Automation plays a pivotal role in the screening processes of venture capital firms. For instance, Connetic Ventures has developed Wendal, an innovative tool that automates the pre-screening process, taking 8 minutes to provide comprehensive information essential for decision-making. This automated approach expedites the screening process and mitigates human bias, contributing to a remarkable 42% of portfolio companies being led by women or minorities. Additionally, 645 Ventures utilizes the 645 Voyager platform, a comprehensive software system, for automated deal sourcing and screening. With features like potential co-investor analytics, automatic tracking of diligence work, and a benchmarking tool, the platform streamlines the screening process. It enhances efficiency in documenting changes in a company's performance over time.

In AI-powered deal sourcing platforms, Daphni stands out as a VC-as-a-Platform, supported by the collaborative community "Daphnipolis." This platform serves as a deal-flow management system, allowing community members to evaluate startup applications collaboratively. Furthermore, Dorm Room Fund's VCWiz, functioning as a combination of a VC directory and CRM tool, showcases the power of AI in aiding founders throughout the fundraising process. Its ability to analyze social graphs assists founders in identifying suitable investors and establishing connections with them. While not explicitly labeled as an AI-driven platform, Backed.vc is developing a technology platform to address inefficiencies in the

European venture market. The platform fosters collaboration and talent sharing, aligning with a technology-driven ethos for efficient deal sourcing.

Illustrative case studies further underscore the success of AI-driven sourcing strategies. EQT Ventures relies on Motherbrain, a proprietary software platform employing convolutional neural networks, to review time-series data about millions of startups. Motherbrain was pivotal in identifying investments like the German software virtualization company AnyDesk, providing EQT Ventures with a competitive advantage through early identification.

These instances collectively highlight the transformative impact of AI in venture capital, ranging from market trend analysis and automated screening to the development of collaborative platforms, ultimately redefining the landscape of deal sourcing and evaluation.

Use of AI in Due Diligence

As we examine AI's use in the investment process, we see that its impact stretches beyond research and sourcing. AI-driven predictive models leverage historical financial data to forecast future performance, providing investors valuable insights for assessing potential risks and returns. The efficiency gains are further amplified as AI generates thorough due diligence reports by synthesizing and analyzing extensive datasets, saving time and significantly reducing the likelihood of human errors.

It is crucial to emphasize that, despite the advancements in AI, human analysts remain integral to the diligence process (Avidor, 2023). They play a pivotal role in processing and interpreting the data, enabling informed decision-making. While AI expedites the evaluation of opportunities, it does not replace the nuanced analysis performed by human experts. Instead, it empowers analysts to explore a broader range of potential investment opportunities while channeling one of the most precious resources: time.

Much like how AI helps companies optimize their operations, it plays a transformative role for VC firms. By incorporating AI in analyzing potential investments, market trends, and economic indicators, VC firms gain insights into how external factors might influence a company's financial health. This augments the research conducted by analysts and complements the expertise held by management, providing a more comprehensive understanding of investment opportunities.

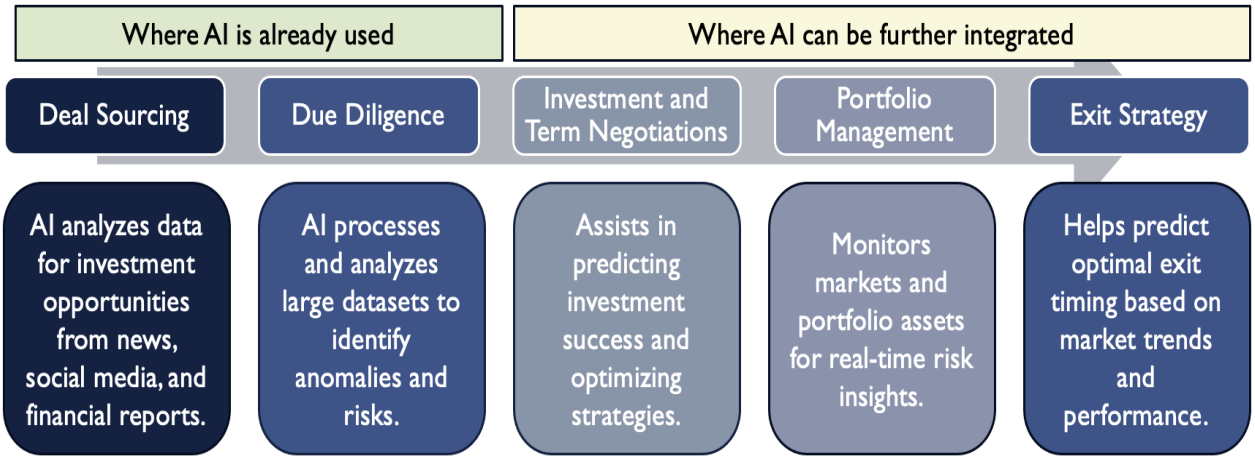
In valuation, AI's impact on risk assessment is noteworthy. AI tools can detect irregularities and patterns indicative of financial fraud, thereby enhancing the reliability of financial statements and reports. Additionally, AI algorithms assess creditworthiness by meticulously analyzing financial statements, transaction data, and other relevant information. This streamlined evaluation process contributes to more informed investment decisions.

Where Can AI be Applied

In contrast to the considerable strides in implementing AI in VC sourcing and due diligence, its penetration into investment and term negotiations, portfolio management, and exit strategy remains relatively limited. The current landscape emphasizes leveraging AI for the early stages of VC instead of through the actual investment execution process. Investment and term

negotiations, which involve complex and nuanced interactions, often necessitate a level of human judgment and negotiation skills that AI has yet to replicate fully. Similarly, while AI significantly enhances risk assessment and portfolio management efficiency, the strategic decision-making involved in ongoing portfolio optimization and exit strategy formulation continues to rely heavily on human expertise. The intricacies of negotiation dynamics, the fluidity of market conditions, and the need for adaptability in managing portfolios through various growth stages present challenges that AI has not comprehensively addressed. As the VC landscape continues to evolve, it remains to be seen how AI will further integrate into these later-stage aspects of the investment lifecycle (see Figure 2).

Figure 2: The comparison between where AI is already used and where AI can be further integrated



THE ADOPTION OF AI IN VC: CASE STUDIES

Case 1: InReach's DIG

At InReach, a London-based VC firm founded in 2015, it all starts with the proprietary software solution DIG (Smith, 2017). This deal-flow platform constantly searches for and stitches together traces and signals from a host of APIs / websites (more than 300 sources). From there, company data is scored by their ML component. This helps predict the probability of whether InReach would be interested in talking to the company about an investment opportunity. These systems do not particularly tell InReach associates whether they should invest but instead determine whether they want to go deeper and find out more. From here, InReach uses emailhunter.io and Clearbit to find the best email to reach their target company. InReach has consistently made efforts to raise funds to make its DIG platform more efficient and faster. Their objective is not to automate the decision-making process for investing in startups but to use technology to make this process far more scalable, efficient, and informed.

As of December 2017, InReach's platform identified 95,000 startups across Europe. Although InReach has already experienced success with its platform, it still believes there is a lot left to prove. In 2017, Shopify acquired one of its portfolio companies, Oberlo, for about $15M. When they invested in Oberlo in 2016, very few people knew that the company existed, but they found it thanks to their unique data-driven approach.

Case 2: EQT Ventures' Motherbrain

Another firm revolutionizing AI-driven sourcing is EQT Ventures, with its proprietary platform Motherbrain (McGlashan, 2023). This cutting-edge system seamlessly integrates decision intelligence into every facet of EQT's deal-making process, setting new standards for efficiency and strategic acumen in the realm of VC. It uses data and machine learning to find startups that are potential investment opportunities based on the criteria lists that EQT sets. Motherbrain analyzes around 50 million companies worldwide, trying to find needles in a haystack. Overall, Motherbrain has an impressive track record, enabling 15 profitable investments for EQT (see Figure 3).

Three AI-driven investments have become unicorns (a privately held startup valued at over $1 billion), and Workday has acquired one. Time and time again, management has emphasized how these companies would not have been identified without Motherbrain. In 2021, Peakon became the world's first exit by an AI-driven investment after being acquired by Workday for $700M. EQT had initially led a $6.62M Series B round in 2017 after sourcing Peakon through the Motherbrain platform.

Moreover, EQT does not simply stop at sourcing and diligence, as Motherbrain is expanding beyond those two stages to help venture portfolios find talent, metrics, benchmarks, and track competitors. Recently, EQT launched SiRE, a simulation-informed revenue model. SiRE is designed on the central assumption that revenue development will likely repeat historical patterns for similar companies at a similar stage. Each future revenue point is initially obtained by sampling from the comparable revenue stats from similar firms. The platform is trained based on a proprietary dataset of revenue trajectories from EQT's portfolio companies and other data they have collected through nearly three decades of investing; SiRe can be used in two ways. First, they can quickly evaluate the revenue potential when assessing a prospective investment. This gives them a simple indication of the likelihood of potential breakouts based on the data the company has given EQT. Second, when receiving revenue predictions from management, it can assess the likelihood of the company performing according to the project plan. For example, in August 2021, EQT received data from a company with approximately $10M in revenue, growing 150% year-over-year. Their revenue prediction model predicted with 95% confidence that the company would end up with revenue between $29M and $40M 12 months later (see Figure 4).

When receiving the data, they were delighted to find out that the company ended up with $30M. (McGlashan, 2023). In the long run, Motherbrain is expected to be the backbone of the investment cycle. The EQT Ventures team has a 98 percent engagement rating with Motherbrain. Alexandra Lutz, the head of Motherbrain, asserts, "I want to say that within the next two years, our support will extend to encompass all EQT investment advisory professionals."

Case 3: SignalFire

SignalFire, a pioneering venture capital firm based in San Francisco, has adeptly introduced AI to transform its venture capital processes, establishing itself as a leader in integrating technology into investment strategies (AI Lab, 2023). At the heart of this innovation is Beacon AI, an AI investment and strategic tool in which SignalFire has invested over $10 million and will likely double that investment in the coming years. Beacon AI is a testament to the firm's commitment to leveraging advanced technology for strategic decision-making and investment screening.

Figure 3: EQT's Motherbrain Platform.

Beacon AI's capabilities are extensive and multifaceted. It plays a crucial role in identifying high-potential, early-stage startups and exceptional future founders, which traditionally required comprehensive human judgment and research. The AI tool sifts through a massive database encompassing over 80 million companies, utilizing machine learning to detect patterns and insights that would be nearly impossible for human analysts to discern. This enables SignalFire to uncover investments that promote the highest returns, a critical advantage in the competitive venture capital landscape. Beyond its role in investment decision-making, Beacon AI is also a dynamic resource for companies within SignalFire's portfolio. It acts as a powerful tool for expediting crucial functions like hiring. With access to a comprehensive database of 600 million professionals across 80 million companies, Beacon AI can swiftly identify candidates

that align with a company's specific needs, significantly outpacing traditional recruitment methods. Beacon AI conducts in-depth competitive analyses and market research and generates lead lists with efficiency and speed unattainable by human teams. This aspect is invaluable for startups devising their go-to-market strategies, providing them with insights and data that would otherwise take substantial time and resources to compile.

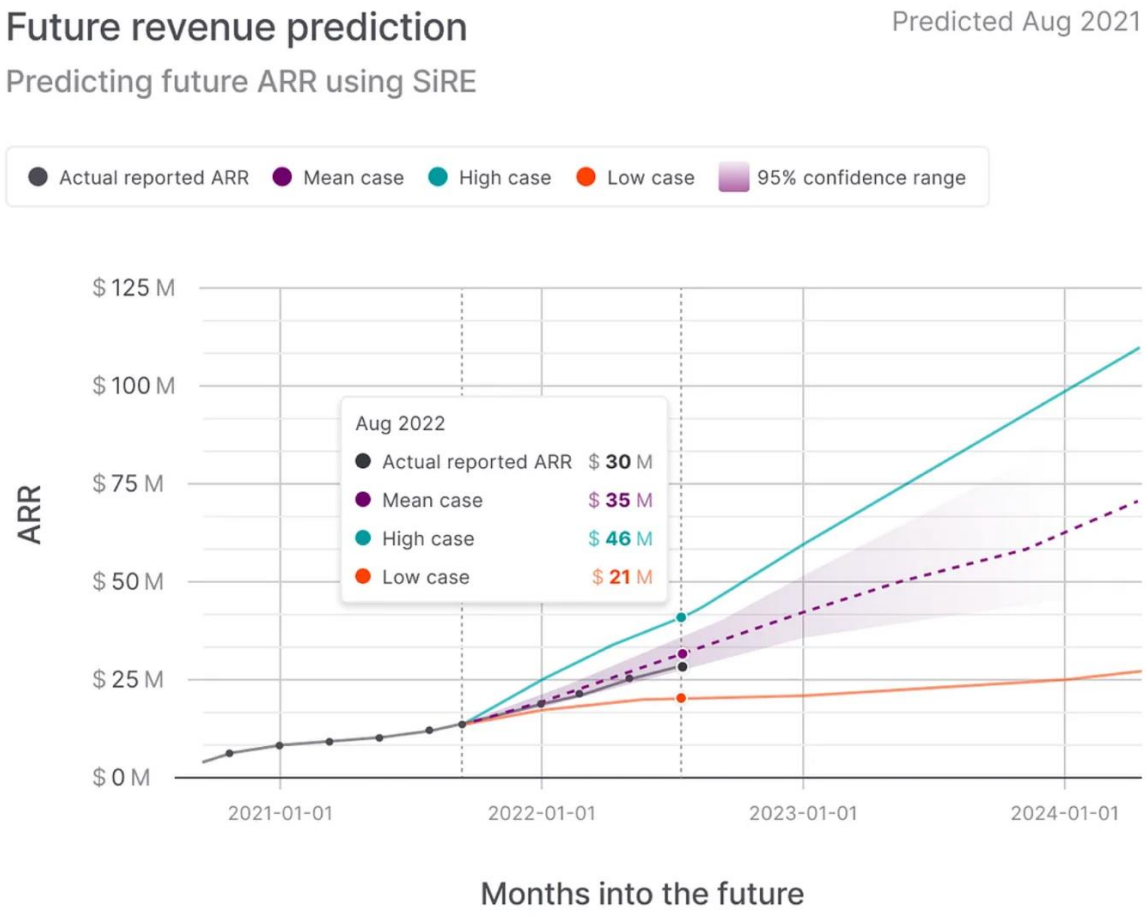
SignalFire co-founder and chief architect Matt Welsh has lauded Beacon AI as “an amazing way to find talent that goes way beyond LinkedIn searches.” This innovative approach saves time and ensures that startups can focus on strategic and creative aspects of their businesses rather than getting entangled in the minutiae of operational tasks. Moreover, Beacon AI has a unique capability in customer acquisition for portfolio companies. It can effectively cross-reference a company's ideal customer profile with its vast talent database to generate sales leads. This functionality streamlines the sales process, potentially accelerating a startup's growth trajectory.

Case 4: Wokelo in the more extensive investment space

Wokelo, a Seattle-based startup founded in 2022, is revolutionizing the due diligence process for mergers and acquisitions using AI. Co-founded by former management consultants Siddhant Masson and Saswat Nanda, Wokelo employs AI to swiftly generate detailed due diligence reports covering company overviews, news insights, funding summaries, product launches, industry landscapes, and more. The AI-driven platform aims to streamline the time-consuming aspects of due diligence, enabling professionals to focus on high-level analysis and critical thinking. With $1.5 million in pre-seed funding, Wokelo targets venture capital and private equity firms, large corporations, and investment banks as its initial customers, boasting early adopters like Guggenheim Partners, Seven Seven Six, Tata Group, Sage Collective, and Snocap. In a competitive landscape, Wokelo stands out by concentrating on private markets and leveraging AI for more profound insights from various data sources.

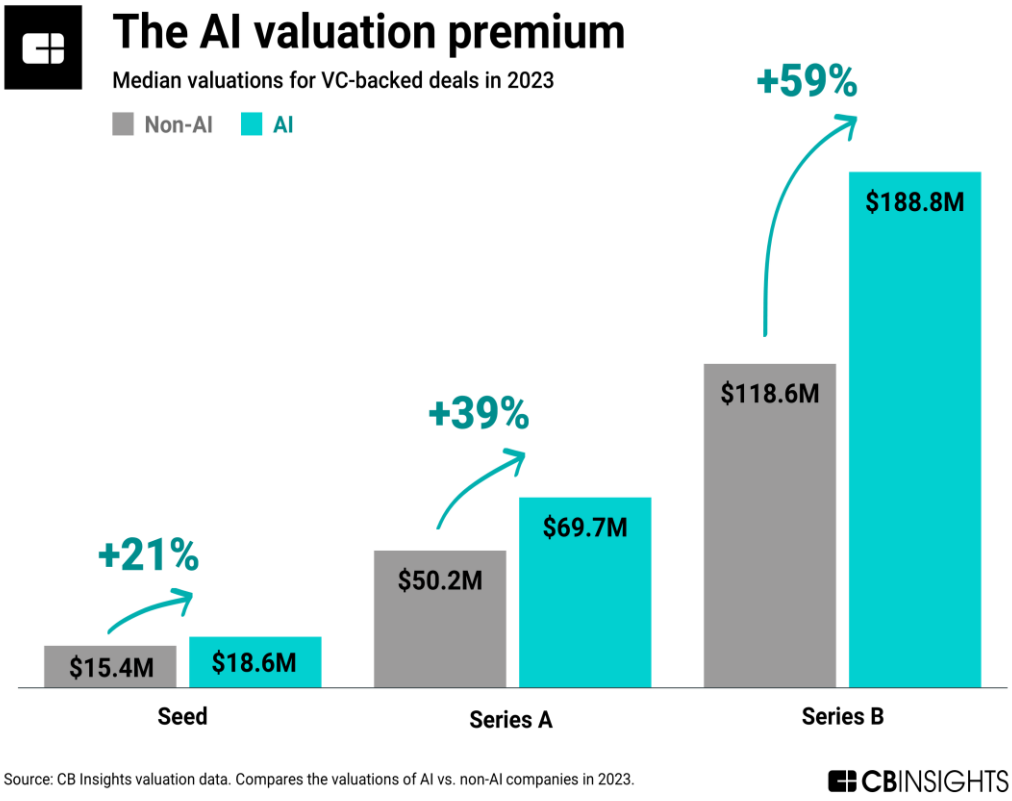
Wokelo signifies a paradigm shift for venture capitalists, offering faster decision-making, efficient opportunity identification, and a more nuanced understanding of risks. This move toward AI-driven due diligence reflects the broader trend of venture capital firms leveraging advanced technologies to optimize operations and make well-informed investment decisions in a rapidly evolving market.

Figure 4: Future revenue prediction of EQT over time.



From the above few case studies, it seems evident that AI will add more value premium when VC-backed firms are valued. Figure 5 (from CB Insights, 2024) shows the AI value premium increases from a 21% value increase of seed financing for VC-backed deals to the additional round progresses up to 39% - 59% increases of the AI valuation premium. AI startups are commanding a premium. Valuations for early-stage AI companies in 2023 were substantially higher than non-AI startups. This also holds true into the mid-stages — AI startups raising Series B rounds notched valuations over 1.5x higher than their counterparts.

Figure 5: The AI valuation premium



ADVERSE EFFECTS OF AI INTEGRATION

Ethical and Other Adverse Considerations

As AI emerges as a pivotal tool in decision-making, concerns about biases and challenges have gained prominence. The inherent biases in training data and algorithms can perpetuate societal biases. Understanding and addressing these challenges is crucial for fostering equitable and effective AI-driven decision-making processes.

How these models are trained is crucial. VCs are faced with the critical decision to develop AI software in-house or rely on third-party solutions. While many VCs have chosen to build their AI models, a growing trend involves subscribing to specialized AI deal scouting platforms like Specter and Harrmonic.ai. Until now, the availability and adoption of third-party AI software options for VCs remain limited. Wokelo is the newest noteworthy player seeking to disrupt this landscape. Over the next couple of years, we project a significant growth in the number of AI options for VCs.

The introduction of AI represents a significant shift in ethics within the Venture Capital industry. The main ethical problems facing AI usage within venture capital stem from the lack of regulation and privacy, programmable biases, and job displacement. The absence of comprehensive regulatory frameworks has allowed for the unchecked development and deployment of AI technologies, raising concerns about the potential misuse of sensitive data and the infringement of individual privacy rights. Additionally, programmable biases within AI algorithms can perpetuate and even exacerbate existing social inequalities, as these systems may unintentionally discriminate against certain demographic groups. When further analyzing the integration of AI in investment decisions, ethical considerations that demand careful examination are raised. Investors must grapple with ethical dilemmas to ensure that AI deployment aligns with responsible and fair practices within the investment landscape. Many different ethical and other adverse concerns arise from using AI in investing.

First, there could be a hiring bias. AI algorithms trained on historical hiring data may inherit biases in the hiring process, potentially perpetuating discrimination. Recognizing and mitigating these biases is crucial to promoting diversity and inclusion within the workforce. To make matters worse, AI applications are reducing the necessity of a human labor workforce.

Second, ESG (Environmental, Social, Governance) rating bias is possible. AI models evaluating ESG factors may inadvertently incorporate biases, impacting the accuracy and fairness of ESG ratings. Addressing these biases is essential to ensure investment decisions align with ethical and sustainable practices. Third, there is also a geographic bias. Algorithms might inadvertently favor or disadvantage certain geographic regions, impacting the distribution of investments. Ensuring geographic neutrality is vital to avoid reinforcing disparities and to foster a globally equitable investment approach. Fourth, there might be a particular industry concentration. AI models may exhibit biases towards specific industries, leading to an overconcentration of investments in certain sectors. Diversifying investment portfolios and refining algorithms can help mitigate these biases and reduce industry-specific risks.

Fifth, there is a possible overemphasis on short-term metrics. AI models focused on short-term performance metrics may neglect long-term sustainability. Striking a balance between short-term gains and long-term stability is critical for responsible investment decision-making. Sixth, there is data privacy concerns as well. Using vast datasets in AI-driven investment decisions raises privacy concerns. Implementing robust data protection measures is imperative to safeguard sensitive information and ensure compliance with privacy regulations. Seventh, there might be overreliance on AI predictions. Blind reliance on AI predictions without human oversight can lead to misguided decisions. Balancing AI insights with human judgment is essential to avoid overreliance and to maintain a nuanced understanding of complex market dynamics. Ninth, there is risk of herd mentality. If multiple investors rely on similar AI models, there is a risk of herd mentality, where market trends become exaggerated. Encouraging diversity in investment strategies can help mitigate the risk of following trends blindly.

Tenth, we also could have some algorithmic complexity barrier. Complex algorithms may challenge understanding and interpreting decision-making processes. Striving for transparency in algorithmic operations is essential to build trust among investors and stakeholders. There is already some evidence from Pitchbook's Hodgson (2023) that technology

may be better at investing. In an experiment in 2020, the Harvard Business Review built an investment algorithm and tested its performance against the returns of 255 angel investors. The results: The algorithm reported an internal rate of return of 7.26% compared to 2.56% for the angels. While the Harvard Business Review found that the algorithm outperformed humans, the results were markedly lower when compared against an elite group of experienced angel investors. The latter achieved an average IRR of 22.75%. There will likely be fewer VCs in the future, and the ones that survive will be the best performers enhanced by AI's capabilities. But who knows? In a decade, founders may pitch ChatGPT or Bard for capital instead of a fellow human.

Eleventh, there is a lack of AI regulation in VC industries. There is no regulation of AI adoption in VC industries. Thus, monitoring the adverse AI effects of protecting data privacy, short-termism, and various ESG reporting biases is hard. Twelveth, there is a lack of human interaction. Because AI technology can be widely applied in VC decision-making without human experience, enhancing human value judgment on VC's fundraising, due diligence and monitoring, investment processes, and exit procedures is crucial. Each VC lifecycle requires a human VC's value judgment, cooperation among VCs, skills, intuition, reliability, and experiences. The ability to look beyond numbers and find the potential for disruptive ideas is a uniquely human skill—at least for now. How well AI could adapt to unexpected events or rapidly changing market conditions, like the downturn we are currently experiencing, also remains to be seen (Hodgson, 2023).

Gompers et al. (2020) find that VC's skills and experiences are essential in VC's investment decision-making. Gompers, Kaplan, and Mukharlyamov (2016) suggest that private equity firms also emphasize the importance of experience. Khanna and Mathews (2022) study competition for startups among VCs with heterogeneous skills. VCs with established skills face two impediments. First, less established VCs compete aggressively for new startups to develop a reputation. Second, startups value reliability in their VCs, which imposes a higher cost on established VCs because they have better outside options. As a result, startups "over-experiment" by excessively partnering with less established VCs, which crowds out established skills and reduces social welfare. Kim and Lee (2022) find that VCs generally value entrepreneurs' education and industry experience in making investment decisions.

Mitigating various risks associated with AI in investment involves a multifaceted approach. Establishing clear ethical guidelines, promoting diversity in AI development teams, and implementing ongoing audits of algorithms can help uncover and rectify biases. Additionally, fostering collaboration among industry stakeholders and policymakers is essential to create a framework that ensures responsible and transparent AI use in investment decisions.

Cost of AI adoption

Given the rapid growth of this new and exciting technology, companies have been quick to incorporate AI into their strategic vision. However, as companies do this, one of the key hurdles is the cost of buying/developing, implementing, and maintaining these new AI systems. Especially given that AI systems are one of the only technologies with linearly improved

performance by adding more computer power, the costs can increase quickly when firms work to optimize performance (Peeler, 2023).

When companies want to implement an AI model within their business, a common first step is to decide whether to purchase an AI model outright or develop it in-house. There are many benefits to building your in-house AI models, such as more flexibility, security, and privacy, given that they are designed for your firm. However, for many businesses, the high cost of GPU computing power is prohibitive, making outsourcing to another firm more attractive. For those looking to outsource, the costs range from relatively low to low usage via API cloud service or local implementations on servers for open-source LLMs. With that being said, several drawbacks arise with adopting 3rd-party software. Firstly, these costs ramp up rapidly when attempting to scale as immense system resources and computing power are required to serve enterprise-grade needs. All outsourced models will likely need to pay fees for licensing, cloud infrastructure, and implementation. To accurately plan for these upfront costs, it is vital to carefully forecast the exact uses and total number of users interacting with AI systems to prevent over-investment. Finally, firms lack a competitive advantage since all the VCs would search for deals from the same pool of opportunities and benefit from an identical algorithm. Whether a company should design or outsource its AI is very situation-dependent, but both methods can lead to a beneficial model.

Once the model is operational, costs shift to regular system maintenance costs and costs associated with training the model with new data. For VCs, in particular, these models will need to be fed a large set of data to make recommendations accurately and counteract the prior biases of the VC firm. VC investment strategies also change over time depending on the partner's decision. Thus, the model will also need to be retrained whenever a major shift in investment strategy occurs. Large AI systems also draw a significant amount of power to run the arrays of GPUs. The business will bear the power cost when an AI model is developed and run in-house. If the model is sourced from a third party that provides computing power, this cost will be included in their fee.

Guido & Bornstein (2023) and Heath (2023) suggest that given the heavily confidential nature of most of the data that VC firms use, bringing in contract AI consultants would likely not be feasible without strong legal protections. Given this, VC firms should instead dedicate an employee or team (depending on the size and complexity of the model) to maintain and retrain the model. While added headcount is a significant cost for firms, a skilled AI staff member can quickly become a value multiplier, improving the initial investment's ROI. Additionally, the cost of acquiring data for the model to use in training can grow exponentially as the firm needs change. Setting up data privacy guardrails and legal safeguards can also be a significant upfront and ongoing cost.

Lastly, one of AI's hidden costs is overinvestment. With the surge in its popularity, many firms feel that they need to “jump on the bandwagon” of AI so as not to miss out on the potential opportunities that could come from being AI-enabled. However, firms must evaluate whether the implementation of AI aligns with their long-term strategy. If the firm does not truly need an AI model, the implementation could divert valuable resources away from more important projects with higher ROI.

While AI has significant cost and ethical considerations, VC firms have seen the benefits outweigh the costs. Obviously, however, some future theoretical and empirical studies should examine more rigorous benefits-cost analyses of AI adoption in VC industries. VC firms with the financial capacity to develop in-house AI investment tools – like SignalFire – typically demonstrate a more profitable long-term trajectory. Such success can be quantitatively linked to the efficiency and effectiveness of AI in investment strategies (Vusser, 2023; Zhou, 2023). These firms, leveraging AI, can reduce the duration and depth of the initial negative phase in the J-curve, typically characterized by early-stage investment losses (Bahmani-Oskooee & Ratha, 2004). A J-curve depicts a trend that starts with a sharp drop and is followed by a dramatic rise. The trendline ends in an improvement from the starting point. By harnessing AI's predictive analytics and data-driven insights, these firms are more likely to identify and invest in high-potential startups earlier and more accurately. This strategic advantage enables them to experience a steeper and earlier upswing in the J-curve, resulting in higher returns on investment over time.

Houser and Kisska-Schulze (2023) focus on the disruption of VC and suggest that despite the massive dollars invested each year by VC firms, more than two-thirds of the companies they fund will provide zero return. More problematic, less than 3% of VC funds go to female-led startup teams and less than 1% to racially diverse founders. While many argue that this underrepresentation will work itself out over time, these numbers have remained stagnant for over 30 years. This is especially perverse given that diverse startups, when funded, appreciably outperform male-only founding teams.

The VC industry operates under an antiquated model of investing in founders with demographics reflecting those of VC partners (white men control 93% of VC funds, and only 0.2% of VC partners are Black or Latina women). While anti-discrimination law is intended to create a level playing field for all, the VC field operates outside this regulatory scheme. In addition to its lack of diversity, ironically, it also has a technology problem. Despite the incredible advances in artificial intelligence (AI) and the industry's focus on tech startups, many VC firms fail to incorporate data analytics and machine learning to guide their decision-making, relying instead on "gut instinct." Houser and Kisska-Schulze (2023) explore the current state of the VC industry through the lens of behavioral law and economic theory, revealing the field's intransigence and the heuristics and biases infecting its decision-making.

Using insights gained from this analysis, Houser and Kisska-Schulze (2023) suggest that disruption is possible through a combination of policy and legal initiatives and leveraging technological advances. They conclude by offering a novel multipronged solution comprising carrots (incentives), sticks (penalties), and AI to motivate behavioral change within the VC industry and stimulate a true meritocracy where gender and racially diverse startups are equitably funded and innovation flourishes.

FUTURE TRENDS AND INNOVATIONS

Future trends in exploring emerging AI technologies within the venture capital VC landscape indicate a progression toward more advanced predictive analytics embedded in AI

models. These advancements are poised to enhance forecasting capabilities, encompassing market trends, startup success, and a broader spectrum of investment opportunities by incorporating diverse data sources. Additionally, NLP is anticipated to be pivotal in due diligence processes, adeptly analyzing unstructured data from diverse sources like news articles and social media. This trajectory suggests that future AI tools will excel in extracting valuable insights from textual information, thereby contributing to more comprehensive due diligence processes. The increasing complexity of AI systems underscores the importance of transparency in decision-making, potentially making Explainable AI (XAI) a critical component in the VC landscape. XAI could provide essential insights into the decision-making processes of AI models, cultivating trust among investors and stakeholders.

Looking towards the future, predictions for the evolving role of AI in reshaping the VC landscape envision heightened personalization in deal sourcing. AI is anticipated to tailor recommendations based on individual investor preferences, risk appetite, and historical investment patterns, facilitating a more efficient and targeted matchmaking process between investors and startups (Predin, 2024). Furthermore, integrating AI with blockchain technology holds promise for streamlining smart contracts in the VC ecosystem. This integration can potentially automate various facets of deal execution, including legal processes, fund distribution, and compliance, thereby reducing associated time and costs. Additionally, the emergence of AI-driven Environmental, Social, and Governance (ESG) investing is foreseen. AI's analytical capabilities can scrutinize vast datasets related to a company's environmental impact, social responsibility, and governance practices, enabling VC investments to align more closely with sustainable goals.

As we consider potential disruptions and opportunities, the transformative impact of AI on traditional due diligence methods becomes apparent. AI's role in automating and enhancing data analysis while boosting efficiency may challenge traditional reliance on human intuition and judgment in decision-making. Moreover, AI's influence could extend to the growth of secondary markets for VC, providing predictive analytics and data-driven insights that create new avenues for buying and selling shares in private companies. This, in turn, introduces liquidity into the historically illiquid VC market. However, the growing reliance on AI in VC also raises ethical considerations and regulatory challenges, demanding a prudent approach to address issues such as algorithmic bias, data privacy, and the responsible use of AI.

AI's efficiency in the venture capital industry appears in many ways: it significantly streamlines processes like deal sourcing, portfolio management, and due diligence. AI algorithms can quickly and easily analyze vast amounts of data, focusing heavily on macro and micro trends and insights to assist investment decision-making (Bicanic et al., 2023). This capability is particularly beneficial in risk management, where AI’s predictive analytics can assess potential risks and returns with a higher degree of precision. By providing a more comprehensive understanding of investment scenarios, AI enables venture capitalists to make more informed decisions, reducing the likelihood of costly investment errors, and enhancing the sustainability of future success.

Despite its advantages, AI's integration into venture capital is challenging. On average, the AI algorithm was found to outperform the average VC by 29% (Nunes, 2022). Key concerns

include ensuring the quality and diversity of data to avoid biases in decision-making. Ethical concerns and maintaining the delicate balance between AI-driven analytics and human judgment are also crucial. AI algorithms, while powerful, may lack the nuanced understanding that human experience brings to the table. Therefore, a hybrid approach that combines AI's analytical prowess with human expertise and intuition is essential for optimal decision-making in venture capital. AI's role in venture capital is poised for significant growth. It is expected to revolutionize further aspects such as deal sourcing, evaluation, and risk assessment. However, navigating the ethical challenges associated with AI integration, such as privacy concerns and algorithmic biases, will be crucial for the sustainable growth of AI in this field. While challenges remain, particularly in data integrity and the balance between technology and human insight, the potential for AI to further revolutionize the industry is immense (Vusser, 2023; Zhou, 2023, Szkutak, 2024). As AI continues to evolve, its integration into venture capital promises to bring about more informed investment strategies and a more dynamic industry.

CONCLUSION

The integration of AI into VC processes has revolutionized sourcing and due diligence. AI addresses limitations in traditional methods, offering scale, automation, and valuable insights. By delving into AI technologies, including ML, NLP, predictive analytics, and RPA, we have unraveled the multifaceted ways in which AI is reshaping traditional VC practices. Our collective effort has brought insightful case studies, ranging from InReach, EQT, and Signalfire to Wokelo, exemplifying the tangible benefits and successes observed in adopting AI in VC. As contributors, we believe that our detailed analysis sheds light on the current landscape and serves as a guide for the future trends and innovations anticipated in the VC domain.

This paper's value proposition lies in its synthesis of diverse perspectives, extensive research, and the incorporation of case studies that highlight real-world applications of AI in VC. Whether they are venture capitalists, tech enthusiasts, or industry professionals, the paper comprehensively explains how AI revolutionizes the VC landscape. Our emphasis on challenges, ethical considerations, and future trends provides a holistic view, encouraging thoughtful reflection and strategic decision-making.

This paper provides a valuable preliminary analysis of navigating the dynamic intersection of AI and Venture Capital. We consider it to contribute to the ongoing dialogue on the future of VC practices and set the stage for continued exploration and innovation in this rapidly evolving landscape. As we conducted our research, we discovered that firms using AI within their diligence/sourcing typically build an in-house platform with a robust tech stack. Nevertheless, a common theme we found is not only in the platform but in its combination with humans. VC firms use it across workflow to complement their team's skillset and decision-making, guiding everything from sourcing and due diligence that can expand to portfolio management, exit, and global dimensions pointed out by Fernandes & Leonard (2023) in other future studies. We also recognized that AI and human expertise have become powerful tools for optimizing operations across the VC workflow and sustainable VC and venture success.

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THE EFFECT OF TRANSFORMATIONAL LEADERSHIP ON EMPLOYEE ENGAGEMENT IN THE HOSPITALITY AND TOURISM INDUSTRY IN GREECE

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ABSTRACT

Increasing employee engagement and intern commitment is crucial to organizational sustainability and success. Specifically, the purpose of this study is to confirm the importance of transformational leadership in employee engagement by considering the flow of services to customers in the hospitality and tourism industry. This paper is a modest attempt at investigating whether transformational leadership can bring about greater organizational engagement and commitment within the hospitality and tourism industry in Greece as relatively little is known about how employee engagement can be influenced by transformational leadership.

The research contributes to transformational leadership effects literature by providing empirical findings regarding its influence on employees' engagement in the hospitality industry in Greece.

Keywords: *Leadership; transformational leadership; Greek hospitality and tourism industry; organizational commitment; employee engagement.*

INTRODUCTION

The concept of employee engagement (EE) has become the focus of managers in general and human resources departments in many organizations as an important element in organizational success and sustainability. This subject has also generated much interest from practitioners and academics over the past few years and has become a popular topic in management and organizational studies because of its relevance to any organizational setting (e.g. Arrowsmith & Parker, 2013; Macey & Schneider, 2008; Saks & Gruman, 2014).

As tourism in Greece made a strong comeback in 2022 reaching the pre-pandemic 2019 levels, its impact on the economy and society becomes progressively larger and more profound. Tourism paves the way for growth and advancement in all facets of Greek society and, particularly, in the realm of business.

This study is focused on transformational leadership and employee engagement in the tourism and hospitality industry in Greece which is currently undergoing a major strategic improvement, focusing on the extension of the tourist period, the development of higher-value tourist segments, the increase of average daily spending and the opening of new tourist markets. Important to note that a crucial component of a successful hospitality and tourism business is to have managers, supervisors, and leaders who will guide and motivate their employees to think outside the box, make good decisions, take ownership of their work, and solve problems (George & Jones, 2012; Tuna et al., 2011). Similarly, long-term business success is mainly attributable to successful leadership. Having the right organizational leader, someone who can transform or help to build more engaged/committed employees is key to the success of an organization (Carasco-Saul et al., 2015; Vargas et al., 2020).

In this labor-intensive industry—i.e. hospitality and tourism, the pressure on employees is very high and managers require extraordinary leadership ability to influence and motivate their employees to establish business success and ensure employees' satisfaction with their jobs (Vargas et al., 2020). Successful tourism organizations ensure having leadership at all levels who will guide and motivate their employees to be dedicated to the organization and intern to customers. Organizations that focus on ensuring effective leadership may make employees happy and productive to an optimum level. It is an ideal perspective to enhance employees' well-being and thus, performance to attain organizational success as measured with sustained growth, profitability, and a stable workforce. Achieving this seems to be critical for the organization to find out whatever mechanism that may lead to the immersion of employees in work where they experience significance in what they do even when it is most stretching and arduous.

Research studies have suggested that employee dedication and commitment, to the organization, are positively influenced by the organization's *transformational leadership* which might be regarded as a key to organizational transformation (e.g. Erkutlu, 2008; Gill, Flaschner, & Shachar, 2006; Gill & Mathur, 2007; Hinduan et al., 2009). The commitment of employees to an organization is essential as it influences their engagement and further contributes to their retention (e.g. Al-Jabari & Ghazzawi, 2019; Tuna et al., 2011). Employees are usually willing to invest in their work and be committed when they feel supported (e.g. Al-Jabari & Ghazzawi,

2019). This sense of commitment usually provides a greater sense of job satisfaction, which may be a predictor of engagement (Ghazzawi & Smith, 2009; Long et al., 2014; Nelson & Quick, 2009; Toor & Ofori, 2009; Tuna et al., 2011).

Although a plethora of theoretical and empirical studies have been made as regards the significance of transformational leadership in hospitality and tourism organizations in other parts of the world, no study to date has measured such a relationship in the tourism and hospitality industry in Greece. The study argues that transformational leadership (TL) is one of the biggest drivers for this business's success.

Accordingly, the purpose of this study is to explore the relationship between transformational leadership and employee engagement by examining the connections between job satisfaction and work motivation. Thus the objectives of the study are:

1. *To review the available literature on the "TL and EE" and its multidimensional constructs.*
2. *To provide an integrated, empirical model that can logically explain varying reasons associated with the impact of the transformational leader on employee engagement.*
3. *To test whether employees' perceived job satisfaction and intrinsic work motivation mediate the relationship between transformational leadership and employee engagement.*

Accordingly, the current study will contribute to the organizational understanding of this phenomenon in general and within the hospitality and tourism industry in particular, assist these organizations in evaluating their style of leadership, and contribute to the body of research that is presently accessible on the subject.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Transformational leadership and employee engagement

Transformational leadership and leadership behaviors and their practices are well-researched areas in the domain of leadership and management and captured widespread attention from practitioners and academicians. Organizations spend time, effort, and money to develop their leaders for the sole purpose of building leadership abilities to help promote a healthy working environment that in turn brings about desired results for the organizations and their employees (e.g. Ghazzawi, 2022; Tuna et al., 2011).

As one of the most popular approaches to leadership that brings together charisma and effective elements of leadership, transformational leadership has been the focus of much research since the early 1980s, it became a part of what is known as the "New Leadership" paradigm (Bryman, 1992). As it implies, transformational leadership is a process that transforms and brings about positive changes in people as it is concerned with ethics, values, emotions, and goals—it focuses on the exchange relationship between the leader and the followers that is concerned with follower motives, needs satisfaction, goal accomplishment, and treating the employee as a whole person (Northouse, 2019).

The concept of transformational leadership was initially presented by Burns (1978) as a process in which both leader and follower help each other to move to a higher level of morale and motivation. This style of leadership is different from other styles of leadership that solely

focus on administrating rewards or punishments such as the transactional style. Transformational leaders are concerned with the transformation or change of followers' fundamental values, goals, and aspirations (Rothfelder, Ottenbacher, & Harrington, 2012).

Work engagement is crucial between transformational leader and their followers for organizational performance in the hospitality industry (e.g. Barkat et al, 2023), equivalently, Hillriegel and Slocum (2009), implied that transformational leadership is needed at all levels in the organization as they need managers with vision, confidence, and determination to help move the organization and its members forward. This leadership behavior has been identified as an important contributing factor in the development of an 'affective' type of organizational commitment (Sahu, Pathardikar, & Kumar, 2018).

The evidence from assorted studies demonstrated that transformational leadership is fundamental to moving followers to meet or even exceed expected performance as well as elevate them to a higher level of commitment and satisfaction (e.g. Bass & Riggio, 2006; Tuna et al., 2011). Although inspiring and creative, they lead people in a fashion where followers try to perform above their capacity while inventing and innovating (Korejan & Shahbazi, 2016). Thus, Avolio, Waldman, and Yammarino et al. (1991) advocated that transformational leaders have done more with their followers than any other leadership type in motivating them to reach goals.

Equally important, transformational leaders in the hospitality industry must focus on realistic selection procedures by hiring frontline employees whose skills, knowledge, and abilities match the requirements of the service job (Baradarani & Kilic, 2018; Lee et al., 2017). Additionally, Baradarani and Kilic (2018) suggested that frontline employees who perceive that their skills and abilities are well-fit with their job requirements will feel positive emotionality that will result in their displaying innovative behaviors. On the other hand, Majid et al. (2023) argued that transformational leadership directly predicts improved role clarity and job engagement in addition to leading employees to job engagement and championing behavior.

Ghazzawi (2022) presupposed that "In addition to influence, leadership involves mutual trust and interaction between a leader and a follower (69)". Leaders inspire employees by creating shared values, beliefs, and visions in a company (Ahn, Adamson, & Dornbusch, 2004). As well, Rafferty and Griffin (2004) propounded that this style of leadership motivates followers to achieve performance beyond expectations by transforming their followers' attitudes, beliefs, and values (see also, Bass, 1985; Yukl, 1999). In essence, the leader inspires her/his followers by providing a sense of meaning to their work and helping them feel a sense of belongingness to the organization (Tracey & Hinkin, 1996). Thus these types of leaders focus on intrinsic motivation and the personal development of their followers (Wan Omar & Hussin, 2013).

In short, this style of leadership focuses on empowering followers and nurturing them in change as it attempts to raise their consciousness and further elevate their self-interest toward the interest of the group (Northouse, 2019). Bass and Avolio (1990) contended that the transformational style of leadership positively impacts the organization and can be taught to people regardless of their organizational level. It can also be used during recruitment, selection, training and development, and/or when promoting someone.

Leaders who transform, usually give their followers pride, respect, and a sense of the organization's mission (Bass & Riggio, 2006). This transforming approach, according to Burns

(1978), creates significant change in the lives of followers and organizations, it redesigns perceptions and values and changes the expectations and aspirations of employees.

Studies investigating the impact of transformational leadership suggested a positive relationship to employee engagement (e.g. Azim et al., 2019; Breevaart et al., 2014; Datche & Mukulu, 2015; Jha & Malviya, 2017; Thisera & Sewwandi, 2018). Others suggested that transformational leadership behaviors were positively associated with employee performance as employees' engagement was moderately related to transformational leadership (e.g. Al-Amin, 2017).

In studying its impact on the hospitality industry, Erkutlu (2008) asserted that transformational leadership behavior stimulates organizational commitment and job satisfaction. It positively impacted creativity and innovation (Slåtten & Mehmetoglu, 2015), employee commitment (e.g. Patiar & Wang, 2016), employee job satisfaction (e.g. Long et al., 2014; Rothfelder, Ottenbacher, & Harrington, 2012), employee engagement (e.g. Thisera & Sewwandi, 2018), and employee productivity and positively helped employee exhibits extra-role customer service (e.g. Kloutsiniotis, Mihail, & Gounioti, 2023). Barkat et al., (2023) suggested that employees and front-line managers in the hospitality industry frequently communicate to meet customers' expectations and the tourism industry. In this regard, the front-line manager must possess flexibility, creativity innovation, and responsiveness to successfully engage with customers and resolve issues promptly (e.g. Baradarani & Kilic, 2018; Barkat et al., 2023; Lisovitch et al., 2021).

Correspondingly, Kang et al. (2019) concluded that transformational leadership practices in the hospitality and tourism industry have an influence on employees' job involvement and reaffirmed that these leaders could enhance employees' job satisfaction.

Transformational leadership in this study is defined as the set of abilities that allow the leader to perform behaviors including inspiring a collective vision, encouraging creativity, recognizing followers' accomplishments, and building trust (Notgrass, 2014).

Accordingly, this style provides followers with a clear sense of purpose that is energizing—a role model for ethical conduct that builds identification with leaders and their articulated vision (e.g. Avolio & Bass, 2004; Tuna et al., 2011). It also stimulates followers by getting them to question the various methods of solving problems and encourages them to examine ways to improve upon them (e.g. Avolio & Bass, 2004; Tuna et al., 2011). Equally, important is the focus of the leader to focus on understanding the needs of each follower and work to get them to develop to their full potential (e.g. Avolio & Bass, 2004; Tuna et al., 2011).

Properly, this article is another attempt to further test and explain the relationship between transformational leadership and employee engagement.

The four transformational leadership factors

As transformational leaders focus on developing followers and improving their performance, they demonstrate a range of behaviors or dimensions, including charismatic influence or idealized influence, inspirational motivation, intellectual stimulation, and

individualized consideration. Transformational leaders are skilled at motivating employees to perform beyond what's expected. The following are the key transformational leadership factors:

Idealized influence (II) - Also called charisma or idealized influence, it serves as the emotional component of the leader (Antonakis, 2012). It is about inspiring followers. It centers around the leader displaying support for the organization's ideals. Idealized influence is an indication of when followers want to emulate the leader who acts as a strong role model that is worthy of followers' emulation (e.g. George & Jones, 2012; Northouse, 2019). These leaders usually have a high standard of integrity, morality, and ethical standards. It is also described in terms of socialized, behavioral, and ethical charisma (e.g. Afshari & Gibson, 2015; Brown et al., 2015).

The cornerstone of idealized influence is the leader's behaviors and the fundamental attribution of the behavior by the followers (Long et al., 2014). While the behavioral component is based on followers' observations of their leaders, the attribution component is based on perceptions the followers have of their leader (George & Jones, 2012; Long et al., 2014; Northouse, 2019).

Inspirational motivation (IM) - Inspirational Motivation is regarded as the degree to which a leader articulates and communicates an appealing vision that inspires and motivates followers. It is also a description of the leader who communicates high expectations to inspire followers through motivation to be committed, take part in the organization's shared vision, and achieve challenging tasks (Kariuki, 2021; Northouse, 2019). Inspirational motivation is also a product of a leader-subordinate relationship which is governed by rules of behavior, collaboration, and dominance among other variables that are emotionally influenced and cause inspiration.

Intellectual stimulation (IS) - Intellectual stimulation is the method where a leader challenges and stimulates followers' minds to help them recognize problems, explore new ideas, question assumptions, and find innovative solutions to what they face at work. The leader inspires followers' intellectual capabilities and develops their ability and propensity to think about the problem differently (George & Jones, 2012; Zhou, Hirst, & Shipton, 2012). Anjali and Anand (2015) described critical thinking and problem solving as "Enhances one's cognitive development at work and has a tendency to create a deeper connection to the work and a stronger feeling of responsibility to the organization (p. 28).

Individualized consideration (IC) - Individualized consideration could be defined as the extent to which the leader attends to the follower's individual needs, and provides support, encouragement, and needed attention so a follower can perform the job. Northouse (2019) referred to it as the efforts of the leaders to assist followers in becoming fully utilized. It is also the mentoring, coaching, or guiding the follower. These leaders develop followers' potential and establish a supportive environment where individual differences are respected (Cetin & Kinik, 2015).

Dionne et al., (2004) maintained that the individually considerate leader creates a one-to-one relationship with each team member, listens to the follower's concerns, and addresses individual needs. In this paper, five items (measurement indicators as specified in Table 2) are utilized to capture the key transformational leadership factors.

Job satisfaction (JS)

The level of job satisfaction is the second factor of the study as it is the positive feelings about one's job based on her/his evaluation of the characteristics of the job (Robbins & Judge, 2007) while it is also relevant to the leader-follower interaction and relationship. It has the potential to affect a wide range of behaviors in the organization and contribute to levels of well-being (George & Jones, 2012).

While job satisfaction is crucial for any organization to be productive, it is likely to be influenced by the organization's culture and leadership (Girma, 2016). When employees are happy and satisfied with the working conditions, they usually display higher job involvement (Huang et al., 2016). There are many facets of job satisfaction and one of them is the style of leadership. An effective organizational leadership style is capable of stimulating followers and directing their behaviors to achieve the organizational mission and goals (e.g. George & Jones, 2012; Ghazzawi, 2008). Newstrom (2011, p. 220) asserted that "Job satisfaction is a set of favorable or unfavorable feelings and emotions with which employees view their work".

Research evidence concluded that in addition to the quality of the working environment, the management/leadership practices such as the provision of participatory leadership, advancement opportunities, providing sufficient resources for performing tasks, and training and development all have the potential impact on job satisfaction (Ghazzawi, 2008; Seldon & Moynihan, 2000).

It is a mental state that is determined by the degree to which employees perceive their needs to be met (Evans, 1997). Locke (1969) described it as "The pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating one's job values (316)."

Studies evidence from the hospitality industry revealed that leadership and management have the greatest impact on overall satisfaction (e.g. Heimerl, 2020. Satisfied employees are those who enjoy a positive relationship with their supervisor and whose supervisors take a fair approach to subordinates' questions and concerns. Other studies investigating the effect of emotional labor on frontline employees' emotional exhaustion and job satisfaction within the hotel industry showed that employee deep and genuine acting related positively to job satisfaction, while surface acting was negatively associated with job satisfaction (Amissah et al., 2020).

Additionally, while some studies showed that job involvement, affective commitment, and normative commitment increase job satisfaction (e.g. Kuruüzüm, A., Ipekçi Çetin & Irmak, 2009); others showed that the fairness of personal outcomes that employees receive may have more impact on turnover intentions, job satisfaction, and organizational citizenship behavior.

When it comes to ensuring customer satisfaction, an employer needs to ensure employee job satisfaction (Hoffman and Ingram, 1992). The widely established perception that a 'happy

employee is a necessity for happy customers' indeed holds in the hospitality context (e.g. Ahmad et al., 2013; Garlick, 2010). Those employees who are happy will be more effective, productive, and involved in their work. Satisfying employees' needs positively reflects on the organization's upgrades of its capabilities for satisfying the needs of its customers (Tansuhaj et al., 1988).

Based on the empirical evidence linking transformational leadership and job satisfaction, the study hypothesizes that Transformational leadership has a positive effect on Job Satisfaction.

Work motivation (WM)

Work motivation is the third variable in the study's investigation as it is a significant aspect of any workplace and is considered to be an essential catalyst for business success, as it promotes employees' effective performance (Vo et. al, 2022).

Work motivation energizes, directs, channels, maintains, and sustains an employee's actions and behaviors (Steers and Porter, 1983). If there is no motivation then there is no job satisfaction which in turn leads to unsatisfied and unproductive employees. Motivation remains a vital factor in organizational psychology, as it helps explain the causes of individual conduct in organizations (Donovan, 2001). An employee who is dissatisfied may leave a company in search of a better place to work.

Work motivation encompasses two constructs - intrinsic and extrinsic (e.g. Ryan and Deci, 2000). While intrinsic motivation is affected by the excitement, joy, personal satisfaction, and the feeling of accomplishment derived from work-related activities and their results (e.g. Bauer et al., 2016; Beukes & Botha, 2013; Legault, 2016); extrinsic motivation is influenced by the organization, the work itself, and the work environment—e.g. social norms, peer influence, financial needs, authority, or promises of reward (Tziner, Shkoler, & Bat Zur, 2019).

Studies evidence from the hospitality industry showed that monetary alone is not enough and that financial rewards do not diminish a person's intrinsic motivation (e.g. Putra et al., 2017). Others suggested that intrinsic motivation is critical for nurturing reciprocity which then enhances organizational commitment (e.g. Kim et al., 2020). Putra et al. asserted that "When extrinsic (e.g., monetary rewards) and intrinsic motivation are applied concurrently in the workplace, intrinsic motivation plays a stronger role in employee engagement than extrinsic motivation (11). Other studies revealed that the attitude of the servant leader in the hospitality industry is one of the mechanisms leaders use to foster creativity and that this mediating role of servant attitude is strengthened as employee intrinsic motivation increases (Ruiz-Palomino & Zoghbi-Manrique-de-Lara, 2020).

Rockmann and Ballinger (2017) attested that there is increasing evidence that intrinsic and extrinsic motivations are independent, each with unique antecedents and outcomes. In this study, the focus is on how intrinsic work motivation mediates the relationship between transformational leadership, job satisfaction, and employee engagement.

Employee engagement (EE)

There is no consistency in defining employee engagement, or regarding the validity of its measurement, and its concept, *(e.g. Kular et al., 2008, Saks & Gruman, 2014). While there is no consistency in defining employee engagement or agreeing on* the validity of its measurement, and its concept, *(e.g. Kular et al., 2008, Saks & Gruman, 2014); however, some defined employee engagement as an emotional and intellectual commitment to the organization (e.g.* Baumark, 2004; *Richman 2006; Shaw et. al, 1998). Others explicated the concept as the size of the discretionary effort exhibited by employees in their jobs (e.g. Frank et al 2004).*

*Kahn (1990), defined p*ersonal engagement as, "The simultaneous employment and expression of a person's "preferred self" in task behaviors that promote connections to work and to others, personal presence (physical, cognitive, and emotional), and active, full role performances." (p. 700).

Analogously, Schaufeli, et al., (2002), defined engagement as the positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Correspondingly, *Macey and Schneider (2008) asserted that employee engagement* is used at different times to refer to the psychological states, traits, and behaviors as well as their antecedents and outcomes.

The engagement of the employees in providing optimal services to tourism customers (service immersion) is under consideration in this paper. This paper refers to employee engagement (EE) as the workers' feeling of emotional responsibility towards the organization. It is also the emotional and intellectual state that causes a person to be highly attached to her/his work and its goals (Popescu et al., 2022). In this paper, employees' engagement was evaluated by measuring participants' immersion when providing services to customers. Zak (2022), defined immersion as, "A neurologic state in which one is attentive to an experience and it resonates emotionally." (p.44). Kannegieser et al., (2021) suggested that immersion is a state of intense focus and complete concentration on an activity, in which the intrinsic motivation and subjective perception of performance both reach their highest points.

The importance of employees' immersion in providing services to customers is also stressed by Pahi and Hamid (2015) who claimed that employee commitment enhances loyalty and high quality of service delivery. It is similar to "flow" or to a state in which people are so involved in an activity that nothing else seems to matter (Zak & Barazza, 2018). On the same line, Csikszentmihalyi (1990) professed that "While flow states require an active participation in a task, immersive experiences can be purely passive, but have similar positive psychological effects like deep concentration and feelings of awe or transcendence." (p. 4).

As the tourism and hospitality industry customers' perceptions and opinions are very important, frontline employees are the link between their establishment and its customers (Buil et al., 2019). Therefore, increasing the identification of the employees with their organization and their engagement is a critical challenge to encourage positive results—namely better performance and behaviors (Buil et al., 2019). Accordingly, one of the biggest challenges for tourism organizations in general, and to the Greek one in a more specific term is to have

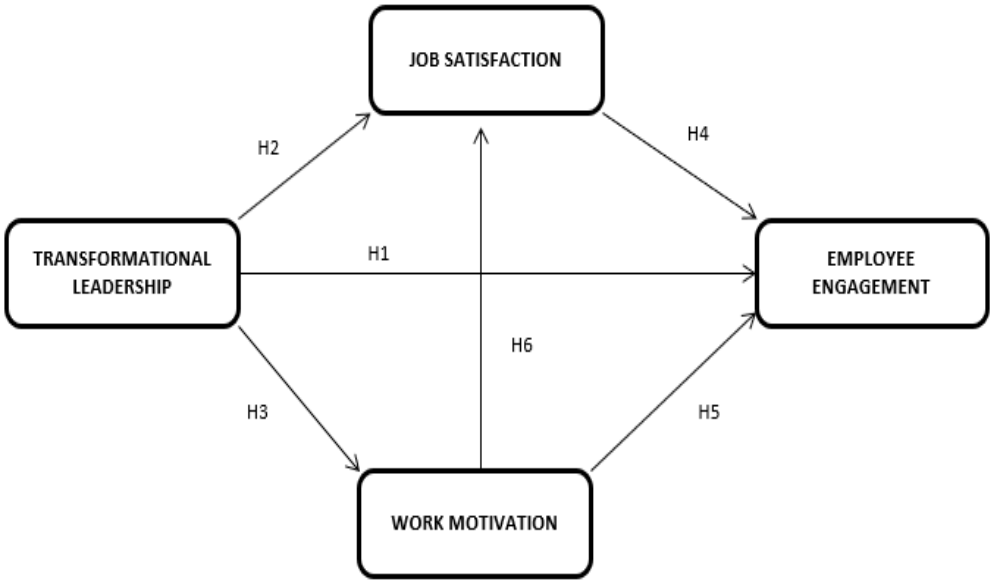
effective ways and appropriate leadership that make employees committed to serving their goals, identify with their organization, and understand the purpose that they have been hired for. These employees work towards helping the company face its challenges. Immersed employees will perform their tasks beyond economic reasons so that the establishment can eventually achieve customer satisfaction with the provided services.

This paper argues that an engaged employee in general and a tourism/hospitality employee in particular, helps her/his organization in terms of productivity and financial viability by providing good customer satisfaction. This is equivalent to commitment. Accordingly, this paper adopted the views that service immersion refers to the extent of the employee's dedication and effort to the customer (e.g. Kang et al., 2019) and the attitude of service employees to engage in service for the customer, to strive for the benefit of the customer, and to be dedicated to the service (Peccei and Rosenthal, 1997). Consonantly, Jiang and Zhou (2020) refer to it as employees' interest in their jobs and the energy in their jobs whereas, Ermi and Mäyrä (2005) concluded that "The feeling of immersion is at its most powerful when one can achieve a satisfying balance of challenges and abilities (p.7). Thus, the study established the following hypotheses:

H1: Transformational leadership positively affects employee engagement
H2: Transformational leadership positively affects job satisfaction
H3: Transformational leadership positively affects work motivation
H4: Job Satisfaction positively affects employee engagement
H5: Work Motivation positively affects employee engagement
H6: Work Motivation positively affects job satisfaction
H7: There is a positive indirect effect of Work Motivation on employee engagement via the mediation role of Job Satisfaction.
H8: There is a positive specific indirect effect of transformational leadership on job satisfaction via the mediation role of work motivation
H9: There is a positive specific indirect effect of transformational leadership on employee engagement via the mediation roles of work motivation and job satisfaction

The proposed hypotheses H1 through H6 in this study are visually presented in the conceptual model, i.e. Figure 1.

Figure 1: The conceptual model of the study



RESEARCH METHODOLOGY

Participants and setting

The study is based on a quantitative survey approach and the data collection included a survey of 300 frontline managers and employees from 10-three, four, and five-star hotels; 11 food and beverage establishments; 7 travel and tourism companies; and 5 entertainment and recreation establishments. Data was collected through face-to-face survey techniques from various touristic areas in Greece in the regions of Attica (Athens center and Athens Riviera), Crete, and Peloponnese during the second half of 2022. The utilization of the quantitative research design is the most suitable approach to explain/analyze the relationships between the various variables (e.g. Barkat et al., 2023; Delice, 2010).

The interviews were conducted face-to-face by one of the co-authors using a questionnaire printed on paper. The original instrument containing study questions was translated from English to Greek by one of the authors and a pilot test was performed using 12 university students to ensure that respondents could easily respond to survey questions. After some adjustments were made, a second pilot study was done using 10 employees in the tourism industry to further validate the instrument. All respondents spoke and wrote Greek fluently. One of the researchers was available in person to answer any questions when needed.

The provided survey and its questionnaires included a cover letter that explained the purpose of the research, the anonymity of data, and the voluntary nature of participation in the study. Additionally, it provided instructions on how to complete the survey. Of the nearly 425 participants solicited from these establishments, 300 frontline managers and employees

volunteered to participate in the current study and completed and returned the survey. Based on that, the response rate was 71%. However, researchers considered 42 forms as invalid as a result of being incomplete or missing other important information. Accordingly, the valid surveys were 258 responses that were deemed valid for further data analysis. Table 1 depicts the demographic characteristics of respondents.

The owners and/or the general managers or the HR managers of all of the targeted establishments were contacted and were briefed regarding the purpose of the study and ensured the confidentiality of personal data. With their help, they assisted in connecting the researchers with the front managers and employees to participate in the study and collect the needed data. Study volunteers were asked to provide information about their age group, gender, education, sector within the tourism industry, and years in the industry at the time of data collection.

Participants profile

Responses showed that participants were 52.3% female and 47.7% male. While the larger part of the respondents came from the age that ranges between 26 to 33 years old (i.e. 31.4%), 27.5% were from the age brackets of 18 and 25, 19.8% were from 34 to 41 years old, 12.4% were from 42 to 50 years old, and 8.9% were 50 years or older.

Participants returned their completed survey to the researcher in person. To ensure the validity and confidentiality of the collected information, participants were guaranteed that all information would remain confidential and would be disclosed only with the participant's permission or as required by law. Confidentiality was maintained by separating the consent forms from the survey questionnaires.

Out of 258 respondents, 48.9% were working in food and beverage companies (i.e. establishments engaged in preparing meals, snacks, and beverages for immediate consumption on and off the premises). Additionally, 30.6% worked in lodging (i.e. hotels, hostels, and other businesses that provide a place for people to sleep overnight), 12.8% worked within the travel and tourism subsector (i.e. businesses related to moving people from place to place— buses, cabs, planes, ships, etc.) and the remaining 7.8% were in the entertainment and recreation subsector (i.e. other activities that people do for rest, relaxation, and enjoyment—or a business that provides visits to places of special interest such as museums, sports, concerts, etc.).

As far as education, 60.1% of the participants had secondary school or trade/technical qualifications, 27.5% had bachelor's degrees, and 12.4% had master's degrees. When years of experience within the tourism and hospitality industry were queried, it revealed that while 42.6% had between one and four years of industry experience, 29.5% had less than one year, and 27.9% had over four years of industry experience.

Table 1
Demographic characteristics

Items	Frequency (N=258)	(%)
Gender		
Male	123	47.7
Female	135	52.3
Age		
18-25	71	27.5
26-33	81	31.4
34-41	51	19.8
42-50	32	12.4
over 50	23	8.9
Sector		
Food and Beverage	126	48.8
Accommodation	79	30.6
Travel and Tourism	33	12.8
Entertainment and Recreation	20	7.8
Respondents' Level of Education		
Secondary/Vocational education	155	60.1
Bachelors Degree	71	27.5
Masters Degree	32	12.4
Years of Experience in the industry		
less than 1 year	76	29.5
1-4 years	110	42.6
More than 4 years	72	27.9
Total	258	100%

Instrument

The purpose of this study was to examine the impact of transformational leadership on work motivation, job satisfaction, and employee engagement in the tourism and hospitality industry. As the research method for this paper was based on an empirical/quantitative study and descriptive statistics; the SPSS AMOS software was used to analyze and verify the hypothesis. Based on a literature review, the items and instruments used in the questionnaire to measure the constructs were adapted from previously validated studies to maintain reliability and validity. Five-point Likert scales were used to assess all constructs. Table 2 describes the measures and their indicators.

Transformational leadership was measured utilizing Wright and Pandey (2010) five-item scale. Five-point Likert scale (1-strongly disagree to 5-strongly agree) was used to measure responses. Cronbach's alpha for the transformational leadership scale is 0.8935.

To measure intrinsic work motivation, a four-item Likert scale was adopted. To record the responses a five-point Likert scale was used (1-strongly disagree to 5-strongly agree). Cronbach's alpha for the work motivation scale is 0.864 (e.g. Vo, et al., 2022). More specifically

it tries to capture how intrinsic work motivation mediates the relationship between transformational leadership, job satisfaction, and employee engagement. Please refer to Table 2 for the four-item scale.

In this study, Leisha DeHart- Davis et al., (2015) three-item scale was adopted to measure job satisfaction. Five-point Likert scale (1-strongly disagree to 5-strongly agree) was used. Cronbach's alpha for the job satisfaction scale is 0.8179. Finally, Employee engagement was measured by Kang, M.J. et al. (2019) five-item scale. Five-point Likert scale (1-strongly disagree to 5-strongly agree) was used. Cronbach's alpha for the work motivation scale is 0.902.

Table 2
Measures

Variables	Measurement indicators	Related research
Transformational Leadership (TL)	The manager clearly articulates his/her vision of the future.	Wright and Pandey, 2010
	The manager leads by setting a good example.	
	The manager challenges me to think about old problems in new ways.	
	The manager says things that make employees proud to be part of the company.	
	The manager has a clear sense of where our company should be in 5 years.	
Job Satisfaction (JS)	Doing my job gives me a sense of personal satisfaction	DeHart-Davis et. al., 2015
	I am proud to work for this organization/company	
	My work is rewarding	
Work motivation (WM) (Intrinsic work motivation)	Indicate how important work is in your life	Vo et. al, 2022
	People who do not work turn lazy	
	Work is a duty toward society	
	Work should always come first, even if it means less spare	
Employee Engagement (EE) (employee's immersion in services to tourism customers)	I think the service I provide to customers is important	Kang, et al., 2019 Tansujah et al., 1988
	I feel proud to provide service to my customers	
	I am very interested in things related to the provision of services to customers	
	I want to provide the customer with perfect service	
	I make the most of my ability to provide services to customers	

Responses on a 5-point agree/disagree scale coded 1 (Strongly Disagree) through 5 (Strongly Agree)

Common method bias

Common method bias (CMB) is an important issue in behavioral research and occurs when variations in responses are triggered by the instrument rather than the original preferences of the participants that the instrument tries to unveil. Therefore, it was highlighted in the survey that there was no right or wrong answer in the responses.

Additionally, the survey advised participants to remain neutral and honest while replying to the set of questions. The current research applied the common method bias using Harman's single-factor approach. According to Harman's technique, common method bias exists when one factor emerges from factor analysis and explains more than 50% of the variance (Podsakoff et al.,2003). The variance extracted using one factor is 39.5%, less than 50%, indicating no common method bias in this study.

Assessment of measurement model

The model fit indices revealed a good model fit as the values of chi-square to degrees of freedom ($\chi 2/df = 1.091$), comparative fit index (CFI = 0.996), Tucker Lewis index (TLI = 0.995), incremental fit index (IFI = 0.996), normed fit index (NFI = 0.951), root mean square error of approximation (RMSEA = 0.019), and standardized root mean square residual (SRMR = 0.0336) all satisfied the cut-off criteria. Please refer to Table 3.

Table 3 Model Fit Measures

Model fit Indexes				
Fit Index	Cited	Fit criteria	Results	Fit (Yes/No)
X2			123,235	
DF			113	
X2/DF	(Kline,2010)	1.00 -5.00	1.091	Yes
RMSEA	(Steiger,1990)	<.08	0.019	Yes
SRMR	(Hu&Bentler,1999)	<.08	0.036	Yes
NFI	(Bentler&G.Bonnet,1980)	>0.80	0.951	Yes
IFI	(Bollen, 1990)	>0.90	0.996	Yes
TLI	(Tucker & Lewis, 1973)	>0.90	0.995	Yes
CFI	(Byrne, 2010)	>0.90	0.996	Yes

Reliability and validity

In this research, reliability, convergent validity, and discriminant validity which are crucial prerequisites for achieving valid results (Henseler et al., 2015) were assessed. The study verified the scale's reliability and convergent validity by employing the following criteria: Item reliability of the measures by using factor loading (>0.5), Cronbach's alpha, the composite

reliability (CR) of the constructs (>.0.7), and the average variance extracted (AVE) (>0.5). Accordingly, all the values of CR lie between the ranges of 0.818–0.902, which confirms the CR of all of the constructs. Furthermore, the AVE criterion allows its value to be greater than 0.50 (Bagozzi and Yi, 1988).

The latent variables ranged from 0.751 to 0.828, showing statistically significant loading. The Cronbach's alpha for all the constructs was also above the threshold value of 0.70 suggested by Hair et al. (2011). The AVE values of the constructs ranged from 0.600 to 0.648 and met the criteria. Prior researchers argue that if the values of AVE are above an acceptable level of 0.50, it indicates adequate convergent validity. Table 4 represents all these values while Figure 2 represents the measurement model graphically.

Table 4
Loadings, Cronbach's alpha, Composite Reliability, and Validity Analysis.

Construct	Items	Loading >0.704	Alpha >0.7	CR >0.7	AVE >0.5
Transformational Leadership (TL)	TL_1	0.828***	.8935	.896	0.634
	TL_2	0.783***			
	TL_3	0.796***			
	TL_4	0.815***			
	TL_5	0.757***			
Work Motivation (WM)	WM_1	0.767***	. 8648	0.865	0.616
	WM_2	0.762***			
	WM_3	0.814***			
	WM_4	0.794***			
Job Satisfaction (JS)	JS_1	0.785***	. 8179	0.818	0.600
	JS_2	0.751***			
	JS_3	0.787***			
Employee Engagement (EE)	EE_1	0.786***	.9020	0.902	0.648
	EE_2	0.798***			
	EE_3	0.827***			
	EE_4	0.807***			
	EE_5	0.807***			

† p < 0.100 * p < 0.050 ** p < 0.010 *** p < 0.001

As far as discriminant validity, it was calculated using two methods—please refer to Table 5 and Table 6. The first is the Fornell - Larcker criterion and the second is the the heterotrait-monotrait (HTMT). In the Fornell and Larcker method (Please refer to Table 5), the square root of each latent variable's AVE is greater than the correlation of its coefficient, indicating discriminant validity (Fornell & Larcker, 1981). Besides, the discriminant validity was also assessed using the heterotrait-monotrait (HTMT) criteria (Hair et al., 2010). Table 6 results

indicate that HTMT values were satisfactory and below the threshold of 0.85 as suggested by Henseler et al., (2015), thus indicating discriminant validity in this research.

Finally, the variance inflation factor (VIF) was also examined for all constructs in the study model to test for multicollinearity. The values did not exceed the threshold of 5, indicating no concerns regarding multicollinearity issues on the data.

Figure 2. Measurement model.

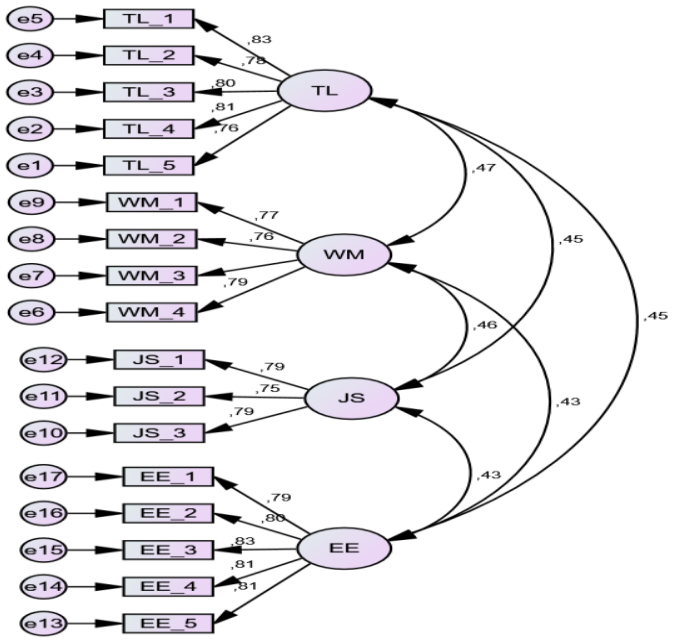


Table 5
Discriminant Validity Analysis (Fornel Larcker) - Convergent Validity

	TL	**WM**	**JS**	**EE**
TL	**0,796**			
WM	0.472***	**0.785**		
JS	0.448***	0.456***	**0.775**	
EE	0.454***	0.428***	0.431***	**0.805**

Significance of Correlations: † p < 0.100 * p < 0.050 ** p < 0.010 *** p < 0.001
Values on the diagonal (bold) represent the square root of the average variance extracted, while the off-diagonals are correlations.

Table 6
HTMT analysis.

	HTMT			
TL				
WM	0.46791877			
JS	0.45308309	0.44942008		
EE	0.45823961	0.42308411	0.43253156	
	TL	WM	JS	EE

Assessment of structural model

The current study assessed the structural model and hypotheses with R-squared (R^2) measures and the path coefficients' level and significance. R-squared (R^2) is the proportion of an endogenous construct's variance explained by its predictor constructs in a regression model. Chin (1998) recommended R^2 values for endogenous latent variables based on: 0.67 (substantial), 0.33 (moderate), and 0.19 (weak). The analysis highlighted that the endogenous constructs, namely WM (.276), JS (0.352) EE (0.351) reflected an effect size that indicates an acceptable model (Please refer to Table 7). To test the hypotheses, the statistical bootstrap technique was applied with the recommended 5000 sample size (Henseler et al., 2015).

Table 7
R-squared Value

Latent Variables	Estimates R^2
WM	.276
JS	.352
EE	.351

RESULTS

The effects of transformational leadership on engagement, job satisfaction, and motivation

Hypothesis 1: Transformational leadership positively affects employee engagement

To test H1, it was found that transformational leadership had a positive and significant effect on employee engagement (b=0.262, *** $p < 0.001$). Therefore, H1 was accepted. It reveals that TL positively predicts EE. Study results are consistent with other research results that include Erkutlu (2008), Gill, Flaschner, and Shachar (2006), Gill and Mathur (2007), and Hinduan et al., (2009) who concluded that transformational leadership significantly increases dedication, commitment, and engagement. Accordingly, hypothesis 1 was supported.

Hypothesis 2: Transformational leadership positively affects job satisfaction

When testing H2, it was revealed that transformational leadership had a significant impact on job satisfaction (b=0.324, ***p<0.001). Consequently, H2 was supported. Said result is consistent with other research outcomes, for example, Al-Jabari and Ghazzawi (2019) and Tuna et al., (2011) concluded that transformational leadership has a positive impact on satisfaction and performance.

Hypothesis 3: Transformational leadership positively affects work motivation

When tested H3, the results indicated that transformational leadership had a positive influence on work motivation (b= 0.526, *** p < 0.001). Thus, H3 was accepted. These results are also consistent with the sheer of research outcomes, including Masi and Cooke (2000), Bass and Riggio (2006), and Tuna et al., (2011) who asserted that transformational leadership is relevant to work motivation and positively impacts it. Therefore, hypothesis 1 was supported.

Please refer to Table 8 and Figure 3 for the tested hypotheses relationships and results.

Figure 3. Graphical representation of the structural model

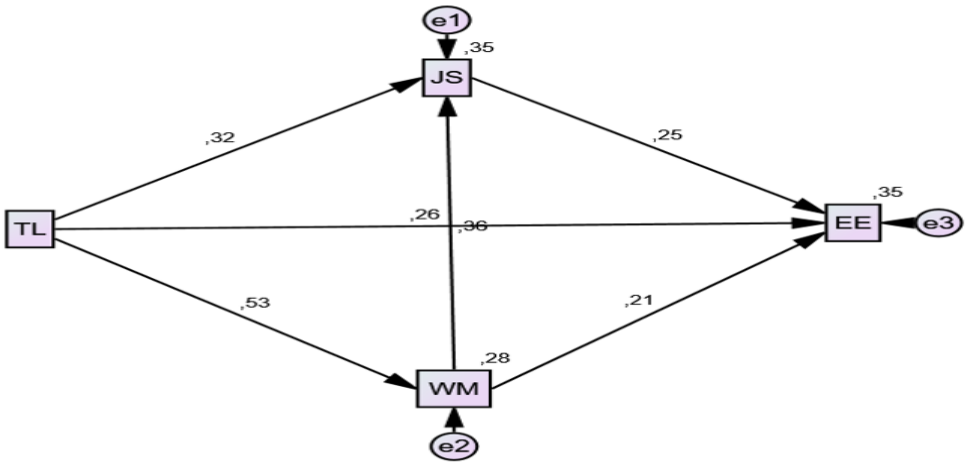


Table 8
Results of hypothesis testing (direct effects)

Hypothesis	Direct Relationships	Estimate Standardized Regression Weights/ Standardized beta	P	Hypothesis Test Decision
H1	EE <--- TL	0,262	***	Supported
H2	JS <--- TL	0,324	***	Supported
H3	WM <--- TL	0,526	***	Supported
H4	EE<--- JS	0,246	***	Supported
H5	EE <--- WM	0,209	***	Supported
H6	JS <--- WM	0,355	***	Supported

Significance of Correlations: † $p < 0.100$ * $p < 0.050$ ** $p < 0.010$ *** $p < 0.001$

The effects of job satisfaction on employee engagement

Hypothesis 4: Job Satisfaction positively affects employee engagement

When testing H4 to validate whether job satisfaction has an impact on employee engagement, study results illustrated that job satisfaction had a positive effect on employee engagement (b= 0.246, *** $p < 0.001$). Not surprisingly, H4 was supported. This result is also consistent with other research findings indicating that job satisfaction positively impacts engagement and is an antecedent to engagement, for example, Ghazzawi and Smith (2009), Long et al., (2014), Nelson and Quick (2009), Toor and Ofori (2009), and Tuna et al., (2011).

Motivation and employee engagement

Hypothesis 5: Work Motivation positively affects employee engagement

When testing the relationship between motivation and engagement, the results show a positive relationship. The study supports its H5 that reveals that work motivation affects employee engagement (b= 0.209, ***$p < 0.001$). Accordingly, hypothesis 5 was supported. This result is also supported by others, for example, Thomas (2009) who asserted that intrinsic motivation is the force that drives engagement.

Additionally, the result is consistent with Riyanto et al., (2021) who concluded that "Employee involvement shows positive and proactive behavior in the workplace which is a

combination of motivational drive and emotionally attached and managers have a high concern for work that is communicated to achieve company goals (165).

Motivation and job satisfaction

Hypothesis 6: Work Motivation positively affects job satisfaction

Lastly, H6 findings show that work motivation had a significant impact on job satisfaction (b= 0.355, *** $p < 0.001$). Hence, H6 was also accepted. The result is also consistent with other empirical research, for example, da Cruz Carvalho et al., (2020) and Stankovska et al., (2017) among others who asserted that job motivation has a direct effect on job satisfaction.

The mediation effects

The purpose of this study was to examine the impact of transformational leadership on employee engagement and to know if job satisfaction and work motivation are mediating variables. Additionally, it was hypothesized that transformational leadership (TL) will have a significant indirect relationship with employee engagement. Furthermore, it was expected that work motivation and job satisfaction mediate this relationship while having specific indirect effects.

Hypothesis 7: *There is a positive indirect effect of work motivation on employee engagement via the mediation role of job satisfaction.*

Hypothesis 8: There is a positive specific indirect effect of transformational leadership on job satisfaction via the mediation role of work motivation

Hypothesis 9: There is a positive specific indirect effect of transformational leadership on employee engagement via the mediation roles of work motivation and job satisfaction

To test hypotheses 7, 8, and 9, a mediation analysis was carried out. Table 9 shows the indirect effects of transformational leadership's relationship to work motivation (WM), job satisfaction (JS), and employee engagement (EE). The indirect effects table reveals that job satisfaction significantly mediates the relationship between work motivation and employee engagement. The specific indirect effect (mediation) of WM on EE via the mediator Job Satisfaction is 0.087 (b=0.087, sig./p=0.001). Hence, H7 is supported. Also, the specific indirect effect (mediation) of TL on JS via the mediator work motivation is 0.187 (b=0.187, sig./p=0.001). Accordingly, the shown results support the study mediation hypotheses. In other terms, for a one-standard-deviation increase in transformational leadership, the study predicted a 0.187 increase in job satisfaction through the mediating variable of work motivation. Accordingly, H8 is accepted.

As far as H9, a mediation analysis was performed to assess the serial mediating role of work motivation and job satisfaction in the relationship between transformational leadership and

employee engagement. The results revealed a significant indirect effect of transformational leadership on employee engagement. The results show b=0.236, sig./p=0.001) via the mediators of work motivation, job satisfaction, and serial mediation through the mediators of work motivation and job satisfaction. In other words, for a one-standard-deviation increase in transformational leadership, the study predicts a .236 increase in employee engagement through the serial mediating role of work motivation and job satisfaction. These findings suggest that having transformational leadership leads to job satisfaction and increases work motivation which, in turn, results in more employee engagement. This is reasonable because when employees experience intrinsic work motivation and feel satisfied, they are more engaged at work. In conclusion, hypotheses 7, 8, and 9 were supported.

Table 9
Mediation Effects

Hypothesis	Indirect Relationships	Estimate Standardized Regression Weights/ Standardized beta	P	Hypothesis Test Decision
H7	EE <---JS <--- WM	0,087	***	Mediation
H8	JS <--- WM <--- TL	0,187	***	Mediation
H9	EE <---JS <---WM <--- TL	0,236	***	Mediation

Significance of Correlations: † p < 0.100 * p < 0.050 ** p < 0.010 *** p < 0.001

CONCLUSIONS

This study aimed to examine the importance of transformational leadership on employee engagement and to expand the understanding of the mediating role of job satisfaction and work motivation in employee engagement within the hospitality and tourism industry in Greece. As noted before, the objectives were specific to (1) reviewing the available literature on the "TL and EE" and its multidimensional constructs; (2) providing an integrated, empirical model that can logically explain varying reasons associated with the impact of the transformational leader on employee engagement; and (3) testing whether employees' perceived job satisfaction and intrinsic work motivation mediate the relationship between transformational leadership and employee engagement.

Accordingly, all objectives were accomplished as a comprehensive review of the literature was achieved. Additionally, the major takeaway from this research is the fact that all the proposed hypotheses (Hypotheses 1 through 6) of the study were supported. It validated the conceptualization that transformational leadership affects employee engagement in the hospitality and tourism industry. It is also shown as proposed that job satisfaction and intrinsic work

motivation mediated the relationship between transformational leadership and employee engagement (i.e. Hypotheses 7, 8, and 9).

While the results of this study acknowledge the complexity of leadership behavior and that individuals' behaviors vary, it proposes that work motivation, job satisfaction, and employee engagement are positively affected by transformational leadership behavior. Accordingly, the findings suggested and strongly confirmed that the transformational leadership style in the hospitality and tourism industry has a positive influence on employee engagement and reaffirms that this kind of leader could enhance employee engagement in the workplace. This study provides a convincing justification that the transformational leadership style generates a positive effect on employees.

A multitude of theoretical and empirical studies have already proved the importance of having transformational leadership in the hospitality and tourism industry (e.g. Avolio & Bass, 2004; Gill et al., 2006; Thisera & Sewwandi, 2018; Tuna et al., 2011); these studies have provided insights to better understand the kind of leadership needed in this industry. What made this study unique is the fact that no study has been conducted to measure the relationship between transformational leadership, work motivation, job satisfaction, and employee engagement in the hospitality and tourism sector in Greece. A case in point, this study's results are in line with others that examined said relationships in different countries and different cultures. It further validated these results.

PRACTICAL IMPLICATIONS

While this research was focused on the Greek hospitality and tourism industry, it has several practical implications for HR directors, managers, and leaders in general and professionals within this specific industry who want to lead their subordinates through different methods that inspire and motivate them, intellectually stimulate them, and respond to their needs which will enable their sense of organizational engagement.

First, as innovation is important when dealing with customers in the tourism industry, HR directors, managers, and others in leadership positions must ensure having and maintaining a learning organization that deliberately designs a program(s) to assess their needs for development and support with a focus on innovative front-line staff work behavior. This is a major undertaking as the guidance of HR directors, managers, and key leaders must be apparent and continuous as front-line staff is a key investment hospitality and tourism establishments need to make to enhance performance and the establishment's business capacity. These programs must be designed to focus on enhancing performance or capacity goals through engaging with customers. It should also leverage learning and learning transfer through applying the new methods and skills employees have learned to a new situation or context. Equally important, these programs must have outcome assessments to ensure the meeting of their objectives. For the employees, learning new methods/new skills coupled with having innovative behavior and performance measurement leads to career advancement and organizational success.

Second, the need for encouragement, empowerment, feedback, and rewarding proper behaviors is another key factor in the tourism industry's innovation and performance. HR

directors and other managers need the front-line employees to be innovative in whatever they do, they must provide front-line staff with continuous encouragement to engage, empowerment to do whatever it takes within boundaries to help customers, and provide feedback on how well they respond and resolve customers' issues and keep a happy and satisfied customer. To do it successfully, managers should monitor how well the front-line employees are doing, provide feedback on how well an employee is doing, share good engagement practices and techniques, and reward employees for innovative performance when dealing with customers to help keep the front-line staff enthusiastic, motivated, and engaged. These rewards could be monetary and/or non-monetary ones—some examples of monetary rewards are profit sharing, salary increases, bonuses, and stock options. Other non-monetary rewards could include volunteer time off, fringe benefits, and tangible rewards and gifts. Doing so increases employee engagement and intern improves organizational performance. A case in point, HR directors and other managers must always provide front-line managers with clear/honest, and constructive feedback. An organization must develop its future leadership talent by providing the feedback that matters. Employees look for honest feedback that delineates the capabilities needed to develop to be successful at a higher level. Additionally, management must attend to followers' needs, provide support, and encouragement, and pay attention to them so they can perform their jobs well. While these managers can recognize variations in subordinates' skills, abilities, and growth desires, they need to also create opportunities to enable them to develop their skills and capabilities. According to Champoux (2011), the degree to which the leader shows a genuine interest in subordinates is an important aspect of individualized consideration.

Third, HR directors, managers, and key leaders in the tourism establishment must have open and honest communication with front-line staff. This includes communicating high expectations to inspire them to commit and engage, continuously sharing the organization's vision to make them more involved and be a part of this shared vision, and helping them achieve challenging tasks. Communication includes excitement and enthusiasm about work and organization. Good leaders communicate openly, receive and provide information and ideas from and to others, and be tentative/effective listeners. Additionally, involving followers in the decision-making process and setting their goals is a powerful tool that inspires motivation and engagement as this practice of communicating and involving followers proved to bring about higher levels of loyalty and commitment in addition to providing a healthy organizational climate (e.g. Stringer, 2002).

Finally, in line with Vargas et al., (2020), this study supports that leaders and managers in the tourism industry should be trained in practices to encourage employees' decision-making, guide them to embrace change, help them take ownership and feel proud of their tasks and responsibilities, to let them know about where the establishment should be in the future, to make them think outside the box by thinking about old problems in new ways, to inspire the passion in their job, to lead by setting a good example, and lastly to motivate their employees to unleash their maximum potential to go beyond and above their performance capacity. It is also important that practice managers should have performance measurements. Performance measurement plays a variety of roles in tourism establishments that include providing the basis for reward allocation, providing a basis for promotion or layoffs, identifying high-potential employees, and validating

selection procedures. Having this tool helps managers access employee's past performance and help managers and employees improve future performance.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

As this study attempts to contribute to the knowledge of the effects of transformational leadership on employee engagement, it has some limitations.

One limitation of this study was that it used a convenience sample of hospitality and tourism employees from the regions of Attica (Athens Center and Athens Riviera), Crete, and Peloponnese. Future research might produce different results based on a different sample. Therefore, further research with a larger sample across Greece is suggested to assess the applicability and the generalizability of these findings to the general population of hospitality and tourism employees in Greece.

A second limitation of this study is the fact that its findings were based on a sample of hospitality and tourism employees. Accordingly, the study can make no claims to the generalizability or representations of these results. To assess its applicability to the general population, future comparative research is needed in Greece's other sectors.

Finally, a limitation of this study was that it was done in Greece. Therefore, the study does not provide valuable implications for other countries as the generalizability of these findings to other countries/cultures might not be appropriate.

Despite these limitations, the current research's proposed hypotheses and its findings still have valuable implications and meaningful effects on the literature.

As far as suggestions for future research, first and foremost, more experimental and longitudinal research is needed to ascertain the causal nature of the relationship between transformational leadership and the four factors of transformational leadership—i.e. charismatic influence or idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

Future studies should also explore the impact of transformational leadership in other sectors and different countries to offset some of the outlined limitations.

A final suggestion for future research is to consider the mediating effect of the country's national culture on employee engagement to examine whether the effect of transformational leadership on employees' engagement might produce different results as a consequence of the culture.

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RESPONDING TO GLOBALIZATION AND THE GROWTH OF PROJECT-BASED WORK: AN INTERNATIONAL PROJECT MANAGEMENT CURRICULUM

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ABSTRACT

Project management standards contribute to some of the most productive business capabilities for gaining organizational efficiencies and implementing strategic plans. These standards feature processes general to the overall discipline of project management and specialized knowledge areas such as program management, risk management, quality management, business analysis, and agile development. The growing global demand for project managers suggests a need to develop a curriculum that builds individual and organizational capacity to lead international projects. Human resource competency may be the most critical component for international capability development, and a vetted training and development curriculum may accelerate the international competencies of project managers. As companies invest in this manner, they empower project managers with the knowledge to understand their international business environments more effectively, thus providing organizational capabilities to reduce the liability of foreignness more quickly in their project operations. The exploratory study discussed here addressed this opportunity by investigating the applicability of established international business (IB) learning objectives as components of an international project management (IPM) instructional curriculum. The outcomes of this study identify a body of knowledge for international project management that may reduce an organization's liabilities of foreignness more effectively. Working project managers with at least three years of managing international projects were surveyed about the importance of international business concepts to successfully managing international projects. Results provide a framework that enables companies to develop the skills and knowledge of their project management talent and consequently gain needed capabilities for their success in international project management. Project managers wishing to strengthen their international project management competencies or organizations who desire to reduce the perceived liabilities of foreignness will find this research beneficial to enable them to deliver successful projects globally.

Keywords*: project management, international business, graduate curriculum*

INTRODUCTION

The Project Management Institute (www.PMI.org), a global body supporting the profession of project, program, and portfolio management, estimates accelerating demand for project managers that will exceed 88 million individuals globally by 2028 (Project Management Institute, 2017). To meet this demand, companies must invest in project personnel recruitment, training, and development to realize a competitive depth of capabilities and PM processes. Their managers today require skill sets for more agile, project-focused, and internationally oriented work than ever before. As globalization pressures strategic business priorities, decision-makers rely on project-management processes to internationalize their business capabilities more effectively (Luo, 2000; Schoemaker et al., 2018). Project managers develop necessary knowledge or skillsets from on-the-job experience coupled with continuing education often delivered through external providers such as universities, technical institutions, and contracted training providers. Employers frequently gauge individual project manager competencies by an individual's stock of professional certifications that reflect various domains of knowledge critical to the well-being of their organizations.

Currently, opportunities for acquiring international project management certification are limited (with one exception: the International Association of Project Managers has recently launched the Certified International Project Manager, (IAPM, 2020)). However, successful international business activities require understanding global and country-specific factors that reduce foreign exposure risk. Sapienza et al. (2006) demonstrate that success in multinational activities results from firms developing explicit international business capabilities that address their unique operational environments. Successful international expansion efforts include an organizational focus on possessing distinctive resources, allocating and deploying those resources as capabilities, and upgrading those capabilities through dynamic learning (Luo, 2000). One international capability comprises project management processes to develop and deliver products, services, or technologies across national boundaries (Midler, 1995). Effective international project management capabilities will likely require robust investment in the training, development, and certification of necessary human resources that draw upon external vendors to supply expert knowledge in this field.

Although PM standards have compensated for specific contexts such as health care or the agile principles of software development, international projects are a lesser-developed context that presents a further opportunity for growth. Despite this need, traditional PM training focuses on generalized processes of technical expertise in managing projects rather than on specialized contexts like international business (Berggren & Söderlund, 2008; Ewin et al., 2017; Khodeir, 2018). Further, standard PM textbooks or online consultant blogs include international project management as a single section or a chapter, with a few notable exceptions (e.g., Cleland & Gareis, 2006; Köster, 2010). Additionally, most research on teaching PM focuses on building general PM knowledge and skills (Abushammala, 2019; Berggren & Söderlund, 2008; Khodeir, 2018; Law, 2019; Markham et al., 2017) rather than focusing specifically on the unique factors of international project management.

Therefore, this article explores the use of international business learning objectives to propose a similar body of knowledge for international project management. The concept of liability of foreignness will be introduced as the theoretical framework for the study, followed by a discussion of the methodological approach used. Data will be analyzed to investigate the usefulness of international business knowledge as a source for delivering successful international projects. Further, the authors propose a graduate certificate for international project management that may help project managers strengthen their ability to manage international projects effectively.

THEORETICAL FRAMEWORK

The need for internationalized project management capabilities can be explained theoretically through the liability of foreignness (LOF) framework (Hymer et al., 1976; Zaheer, 1995). This framework justifies learning investments as prerequisites for reducing the uncertainty and risk of organizations operating in foreign or international scenarios (Brady & Davies, 2004; Petersen & Pedersen, 2002). Liability of foreignness addresses the unique category risk newcomers face to internationalization as opposed to those more experienced in cross-border operations or those more familiar with the idiosyncrasies of native markets. Less internationally seasoned competitors are burdened with additional risk or production costs due to increased uncertainty or ambiguity of cross-border situations in which they operate. The burden is particularly intense for early movers to specific locations and the general internationalization process. Liability of foreignness points out the disadvantages to early movers vis-à-vis incumbents who enjoy familiarity, cultural likeness, and longer-term relationships within their native environments. LOF further argues that strategic information gathering and accelerated learning by newcomers can reduce this imbalance more quickly and effectively. Specific LOF risk factors noted by researchers include environmental unfamiliarity due to cultural, political, and economic differences, international coordination costs (Zaheer, 1995), disadvantages in host country capital markets (Aliber, 1970), and cultural differences and multinational enterprise spatial remoteness between parent and subsidiary (Matsuo, 2000). Johanson and Vahlne (1977, 2003) noted that LOF stemmed from a multinational enterprise's "psychic distance" between home and host country factors that elevate the uncertainty and ambiguity related to foreign operations. They also discussed the relational liability of foreignness costs due to a firm's "insider vs. outsider" disadvantage within foreign business networks.

These cited factors seem particularly challenging in the international project management context. Uncertainty is a primary contingency variable moderating the relationship between the structure and process of projects with their outcome success. Liability of foreignness poses greater uncertainty for organizations lacking mature capabilities for understanding foreign markets or internationalization in general. LOF may exist when bidding for international project contracts or resourcing, planning, and executing project activities. In addition, the nature of temporary, single-purpose projects using temporary project teams infers learning environments that are more difficult to articulate and code than ongoing operations. The complex challenges of

developing international project capabilities may benefit from applying international business knowledge to the project context.

Zaheer (1995) noted that reducing the liabilities of foreignness is particularly difficult when learning from existing competitors that may have an advantage in foreign markets or situations. Petersen and Pedersen (2002) demonstrated considerable variance in the learning approaches taken by foreign firms to reduce their disadvantage in native markets. However, they indicated a general frequency in their respondents who attempted to add pre-entry learning as an ingredient of capability building. Johnson and Vahlne (2003) also note the value of investments in indigenous knowledge creation and assets to reduce psychic distance and related risk-related costs. Indeed, uncertainty and ambiguity reduction increase the likelihood of project success in new or unfamiliar circumstances. For these reasons, international project capabilities should heavily emphasize international learning for its project managers focused on market-specific information and the general know-how of IPM that applies to internationalization in general.

These theoretical perspectives have been germane to international business knowledge, which has developed significantly in the past several decades, as evidenced by abundant academic literature and successful business practice. A much less developed domain of international project management inquiry has emerged, yet many principles from the IB field should benefit a body of knowledge for the latter. For this reason, the following research question guides the exploratory research described below: "To what degree do the learning objectives of international business hold significance for developing a similar body of knowledge for international project management?" Finally, a proposed set of learning modules will be derived from the answer to this question that may be used to develop a graduate certificate in international project management.

METHODOLOGY

The first step toward investigating the relationship between international business knowledge and international project management knowledge involved identifying learning objectives from several well-known and popular international business textbooks. These learning objectives are a proxy for a comprehensive set of international business competencies. The IB competencies were incorporated into a survey of project managers with international project management experience that asked them about the relevance of international business concepts to international projects. Finally, survey results were used to develop a recommended course progression for an international project management graduate certificate.

International Business Competencies

International business has an extensive knowledge base, including topics that focus on cultural awareness, international standards knowledge, and the ability to operate across varying political economies (Li et al., 2020). The first step in this study involved conducting a qualitative analysis of learning objectives from two popular international business textbooks widely used in the international business and management education discipline, collecting 162 learning

objectives (Doh & Luthans, 2018; Hill & Hult, 2016). These textbooks were chosen for two reasons: first, the authors were familiar with the textbooks, and both textbooks are best-sellers (as noted by the Amazon.com ranking as of 9/16/2022, in the top 35 international business books). Next, the research team removed duplicate and highly similar learning objectives, first by manually reviewing the objectives and second by asking practitioners familiar with IB and PM to review the list of learning objectives for clarity and potential duplication. After two rounds of review, the research team condensed the list of learning objectives to 44 items. Further qualitative analysis based on the similarity of context and concepts of the learning objectives allowed the research team to organize the 44 learning objectives into six broad themes: cultural intelligence and awareness, globalization, international strategic thinking, international trade and foreign exchange awareness, management and leadership skills and knowledge, and technical and operational proficiency.

The research team validated these themes as useful for international project managers by comparing them to the knowledge required for the Certified International Project Manager certification offered by the International Association of Project Managers (IAPM, 2020). The CIPM certification recognizes the unique characteristics of international projects and globalized project environments. The CIPM certification exam currently assesses knowledge related to international business competencies, cultural dimensions, and technical project management skills (IAPM, 2020), which align with the themes identified by the research team in their analysis of IB competencies.

Survey Development

The six themes and the underlying 44 learning objectives formed the primary content of a survey delivered to international project managers. The survey included questions about general and international project work experience. Work experience questions asked respondents to consider a specific international project they had recently completed or were currently working. The questions included the type of project, the respondent's role in the project, the project manager's primary work country while working on the project, the number of countries the project team represents, the project budget and duration, and project complexity. Project complexity was measured across four dimensions: urgency, novelty, uncertainty, and strategic value (Shenhar, 2001). The work experience and project questions data were used further to validate the international competence of the survey respondents.

The survey presented the 44 learning objectives grouped into the six themes identified earlier to reduce cognitive load. The survey prompted respondents to evaluate the items' relevance to international project management using a sliding scale (0-100), reflecting how each respondent felt the learning objective was relevant to international projects. The survey also prompted respondents to add any knowledge or topics not included in the list but that the respondents felt were necessary for successful international projects. To contextualize and characterize the panel, the respondents answered demographic questions (social desirability bias; Hays et al., 1989), age, nationality, gender, spoken languages, and education). The respondents answered several open-ended questions about various aspects of IB and its relevance to

managing international projects. These questions provided a rich context for discussing findings and the proposed curriculum for international project management.

Sampling Approach

International project managers were chosen as research participants because of their experience working on international projects. The team felt it was important to study international project managers' perceptions of the importance of various international business competencies in managing international projects. The data collected were analyzed using a qualitative approach to design a relevant and appropriate graduate concentration in international project management.

Because this research focuses on understanding the relationship between IB competencies and the necessary knowledge for successfully managing international projects, the research team worked with international project experts who demonstrated proficiency in managing international projects. The research team contracted with an online survey company to select a panel of working project managers with at least three years of experience working on international projects, specifically holding project or program management roles. Respondents who met these criteria were deemed subject matter experts and suitable for participation in the survey.

The survey company compensated the qualified respondents for their time. Using compensated online survey panels raises concerns regarding the data's validity and reliability (Porter et al., 2018; Stanley et al., 2020; Walter et al., 2018). Porter et al. (2018) recommend that researchers consider how the participants are recruited and selected, an appropriate study design and sample size, testing for quality of responses, and informed consent, among others. One concern is that respondents provide data only to receive incentives, but that apprehension may be reduced by a recent analysis proving that incentives are not significantly correlated with response bias, or the quality of data obtained (Stanley et al., 2020). Further, Stanley et al. (2020) demonstrated both the online survey panels' internal consistency and external validity. However, they caution investigators to ensure that online survey samples are appropriate to the research question being investigated (Stanley et al., 2020; Walter et al., 2018).

The current study mitigated concerns about using a compensated online panel by considering the recommendations by Porter et al. (2018) in the research design. First, the research team recruited and selected qualified experts (experienced international project managers) using two qualifying questions included in the survey that confirmed the participants had at least three years of managing international projects as a project or program manager. Second, to ensure an adequate sample size for this study, the research team negotiated for a minimum of 160 valid responses (i.e., responses from participants who met the two qualifying questions and completed the survey with valid responses), which is more than sufficient sample size to reveal desired effect sizes. Finally, to ensure response quality, only respondents who met the qualification criteria and passed non-random tests conducted by the survey company were included in the analysis. As noted by Porter et al. (2018), other essential factors to consider that

were addressed by the current study include posting informed consent, requiring respondent agreement, and collecting demographic data, including current country of residence.

Approach to Curriculum Development

The survey results contributed to a proposed graduate curriculum in international project management. Based on the importance assigned to the IB competencies, a series of learning modules were developed that covered the relevant IB topics. The modules grouped similar competencies so that each module could be taught as a stand-alone module or as a sequence of modules that could be used to develop a course or certificate in international project management.

RESULTS

The survey results addressed the first research question, “To what degree do the learning objectives of international business hold significance for developing a similar body of knowledge for international project management?” 247 respondents participated, with 168 responses meeting the required filters of three or more years of international PM experience and service in a project or program manager role. Respondents were predominantly males (88%) aged 35-44 (73%) who indicated the United States as their primary work country (83%). Table 1 summarizes the sample demographics.

Table 1
SAMPLE DEMOGRAPHICS

Primary Work Country	#	International Project Experience (Years)					Age (Years)					Gender		
		3-6	7-10	11-15	16-20	20+	18 - 24	25 - 44	45 – 64	65 +	NS.	Male	Female	Not Provided
Afghanistan	1	1	-	-	-	-	-	1	-	-	-	1	-	-
Australia	6	3	2	1	-	-	-	5	1	-	-	5	1	-
Belgium	1	-	-	1	-	-	-	1	-	-	-	1	-	-
Belize	1	-	-	-	-	1	-	-	1	-	-	-	1	-
Brazil	1	-	-	1	-	-	-	1	-	-	-	1	-	-
Canada	9	3	4	1	-	1	-	4	5	-	-	9	-	-
China	1	1	-	-	-	-	-	1	-	-	-	1	-	-
Dominican Republic	1	-	-	1	-	-	-	1	-	-	-	1	-	-
France	1	1	-	-	-	-	-	1	-	-	-	1	-	-
Guatemala	1	1	-	-	-	-	-	1	-	-	-	1	-	-
India	1	-	1	-	-	-	-	1	-	-	-	1	-	-
Italy	1	1	-	-	-	-	-	1	-	-	-	1	-	-
Japan	1	-	1	-	-	-	-	-	1	-	-	1	-	-
Liberia	1	-	-	1	-	-	-	1	-	-	-	-	1	-
Mexico	2	1	-	1	-	-	-	1	1	-	-	2	-	-
Switzerland	1	1	-	-	-	-	-	1	-	-	-	1	-	-
USA	138	37	62	28	7	4	0	115	17	2	4	119	15	4
Total by Category	168	50	70	35	7	6	0	121	26	2	4	146	18	4
% of Category		30%	42%	21%	4%	4%	0%	81%	13%	1%	2%	87%	11%	2%

Analysis of International Business Competencies

All respondents rated the importance of the 44 learning objectives, and a mean relevance score was computed for each objective. The items were ranked in order of importance using the mean score, with the highest mean score given a rank of "1." When item mean scores were equal, the item with the smallest standard error of the mean was given a higher rank. The rankings of the learning objectives are shown in Table 2.

Table 2
RANK OF TOP 25 LEARNING OBJECTIVES BY EXPERTS

#	Learning Objective	Mean	SE [95% CI]
1	Capacity to coordinate and control international project activities	87.80	1.01 [85.80-89.80]
2	Virtual team leadership and technology integration	87.58	1.05 [85.50-89.65]
3	The value and challenges of multiculturalism and diversity on project teams	87.22	1.00 [85.25-89.19]
4	Understanding country differences and location-specific advantages for structuring project activities	87.16	1.06 [85.07-89.25]
5	Ability to plan and execute international logistics	86.55	1.12 [84.35-88.76]
6	Evaluating benefits and costs of international project alliances	86.46	1.24 [84.01-88.91]
7	Business and economic implications of cultural differences	85.93	1.18 [83.59-88.27]
8	Policies or regulations used by governments to control international trade	85.91	1.08 [83.78-88.05]
9	The unique ethical dilemmas faced by international project managers	85.91	1.17 [83.61-88.21]
10	The impact of trade agreements such as NAFTA, European Union, ASEAN	85.91	1.25 [83.44-88.37]
11	Ability to manage international aspects of organizational structure and processes	85.80	1.23 [83.39-88.22]
12	Understanding the impact of exchange rates, trade barriers, and transportation costs on budget management	85.79	1.11 [83.60-87.99]
13	How knowledge management may differ between countries	85.71	1.23 [83.28-88.14]
14	Knowledge of the firm's corporate strategies with respect to international projects	85.70	1.34 [83.06-88.34]
15	Understanding cultural intelligence and the problems of ethnocentric thinking	85.57	1.18 [83.24-87.91]
16	International aspects of personnel sourcing, selection, compensation, training, and development	85.43	1.21 [83.04-87.81]
17	Cross-cultural communication skills	85.38	1.20 [83.02-87.75]
18	Factors that determine national and organizational culture	85.36	1.13 [83.14-87.58]
19	Mitigation of foreign exchange risk on international projects	85.31	1.09 [83.17-87.46]
20	How performance appraisals differ across cultures	85.27	1.18 [82.94-87.61]
21	The overall dynamics of business globalization	85.27	1.33 [82.65-87.90]
22	Competency in cross-cultural negotiation	85.24	1.12 [83.04-87.45]
23	Impact of foreign exchange volatility on project risk management	85.20	1.13 [82.97-87.42]
24	Globalization's opportunities and challenges for business managers	85.20	1.15 [82.92-87.47]
25	Differences of leadership effectiveness across cultures	85.11	1.24 [82.66-87.56]

Note: The complete list of learning objectives is available upon request.

Technical & Operational Proficiency, International Strategic Thinking, and Cultural Intelligence & Awareness were the three most important themes influencing international project success. Table 3 shows the six themes' ranking and lists each theme's three highest-rated learning objectives. The relative importance of each of the six themes was computed from the mean ratings for the underlying learning objectives.

Table 3
THEME RANKING AND TOP 3 LEARNING OBJECTIVES

Theme	Overall Mean Score	Top Three Learning Objectives
Technical & Operational Proficiency	86.49	(1) Capacity to coordinate and control international project activities (5) Ability to plan and execute international logistics (11) Ability to manage international aspects of organizational structure and processes
International Strategic Thinking	86.00	(4) Understanding country differences and location-specific advantages for structuring project activities (6) Evaluating benefits and costs of international project alliances (14) Knowledge of the firm's corporate strategies with respect to international projects
Cultural Intelligence & Awareness	85.29	(3) The value and challenges of multiculturalism and diversity on project teams (7) Business and economic implications of cultural differences (15) Understanding cultural intelligence and the problems of ethnocentric thinking
Management & Leadership Skills & Knowledge	85.10	(2) Virtual team leadership and technology integration (9) The unique ethical dilemmas faced by international project managers (16) International aspects of personnel sourcing, selection, compensation, training, and development
International Trade & Foreign Exchange Awareness	84.91	(8) Policies or regulations used by governments to control international trade (10) The impact of trade agreements such as NAFTA, European Union, ASEAN (12) Understanding the impact of exchange rates, trade barriers, and transportation costs on budget management
Globalization	84.27	(13) How knowledge management may differ between countries (21) The overall dynamics of business globalization (24) Globalization's opportunities and challenges for business managers

The mean importance given to all the learning objectives ranged from 82.37 to 87.80, demonstrating the perceived importance of all aspects of international business to managing international projects successfully. The mean importance given to the six themes also demonstrates that experienced international project managers consider the IB competencies essential for international project success.

Proposed Curriculum

Based on the survey results, the following section describes a set of learning modules that should reduce project-level liabilities of foreignness to improve the chances of international project success (Table 4). The content presented here targets professional postgraduate students with varying levels of project management experience. Its design and scope of coverage are sufficient for a graduate certificate or MBA concentration. The following sections describe the modules by summarizing the key topics covered in each module, how the topics reduce the potential liability of foreignness, and how these align with project management best practices.

Initially, six modules were proposed based on the IB competency themes used in the survey. However, after a review of the proposed content, it was decided to split a few of the modules so that all modules were approximately similar in the amount of content covered. Doing so will make it easier to organize the modules into courses or certificates as desired.

Table 4
LEARNING MODULE DESCRIPTIONS

Name	Description
Module 1. National Culture and Ethics	Theme: 3. Cultural Intelligence and Awareness National culture and the implications of cultural differences to project success; dimensions of national culture and values, team diversity and multiculturalism, cultural intelligence, ethical decision-making
Module 2. International Strategy and Operations	Theme: 2. International Strategic Thinking; 1. Technical and Operational Proficiency Organizational structure and processes that support an organization's strategic and operational goals, balancing organizational structure with global standards and location-specific project constraints
Module 3. Leading International Teams	Theme:4. Management & Leadership Skills and Knowledge Approaches to leading and managing international teams, including team development, communication strategies across cultures, and virtual team leadership and technology integration
Module 4. International Project Planning	Theme: 1. Technical and Operational Proficiency; 6. Globalization Examination of how country differences in political, economic, cultural, ethical, and human resource practices may influence and constrain project planning
Module 5. International Human Resource Management	Theme: 4. Management & Leadership Skills & Knowledge Basic concepts of international human resource management (recruitment, selection, compensation, performance evaluation, training, and development); HR practices across different cultural contexts
Module 6. International Trade Regulation and Agreements	Theme: 5. International Trade & Foreign Exchange Awareness; 6. Globalization National differences in commercial statutes, economic policies, and regulatory agreements; the role of country-specific political, legal, and economic systems that may constrain business operations; foreign exchange, trade agreements, and wealth distribution; how these factors influence projects
Module 7. International Project Coordination	Theme: 1. Technical and Operational Proficiency; 2. International Strategic Thinking; 6. Globalization Project coordination functions to maximize efficiencies intra- and inter-organizationally complicated by cross-border activities; project controls for managing the global stakeholder network, nation-specific baselines, contingencies, and country-specific contract and risk plan administration
Module 8. International Project Alliances	Theme: 2. International Strategi Thinking; 6. Globalization Benefits and drawbacks of international alliances to complete project work; strategies to enable international project managers to identify potential partners and negotiate agreements
Module 9. International Project Logistics	Theme: 1. Technical and Operational Proficiency; 2. International Strategic Thinking; 5. International Trade & Foreign Exchange Awareness; 6. Globalization Project logistics, quality control, and distribution channels are affected by international constraints.

MODULE 1 NATIONAL CULTURE AND ETHICS

Cultural intelligence and awareness are critical for international project managers to reduce their potential liability of foreignness and improve project performance. Research and anecdotal evidence support the variety and impact of cultural values, norms, and behaviors worldwide (Chen et al., 2009; Javidan et al., 2006). Project managers working with teams representing multiple nations and cultures must recognize their team members' different values and norms, embrace the benefits of diversity, and minimize the challenges that arise. The international project managers surveyed in this study felt that cultural intelligence and awareness were critical success factors for international projects, rating highly the objectives relating to national culture, values, and challenges of multiculturalism, and unique ethical dilemmas the international project managers face. The information presented in this module will provide the international project manager with a toolkit to understand national cultural differences and maximize the benefits of working with a multicultural project team. This module explores theories of national culture and the implications of cultural differences to project success. Topics will include dimensions of national culture and values, opportunities and challenges of team diversity and multiculturalism, cultural intelligence, and ethical decision-making for international project managers.

MODULE 2 INTERNATIONAL STRATEGY AND OPERATIONS

Several Strategic and Business Management aspects surfaced as critical knowledge for international project managers. The competencies prioritized by the experts suggest international structure and process as necessary knowledge for successful international projects. Whether for continuous operations or discontinuous project work, structure, and processes are vital in implementing strategic actions. Strategy determines the overarching goals guiding organizations (Ansoff, 1965; Chandler, 1990; Guerras-Martín et al., 2014; Porter, 1997), and projects should align closely with a firm's strategic priorities (Morris & Jamieson, 2005). Indeed, projects should not only align with organizational strategy but may encompass unique project-level strategies and adjust project structure and processes to the transitioning environments in which they operate (Morris & Jamieson, 2005). Structure conceptually encompasses horizontal and vertical components, with the former depicting the configuration of work units and the latter reflecting optimal decision-making location in the organizational hierarchy. Projects are the building blocks of strategy implementation, and integrating mechanisms are the information processing that binds them intra- and inter-organizationally (Galbraith, 1974; Tushman & Nadler, 1978). A central theme of international strategies is how organizations must respond to global standardization and cost reduction pressures vs. pressures for local responsiveness (Prahalad & Doz, 1987). Understanding these competing demands would enhance a project manager's ability to translate these organizational priorities to determine project-level activities. Due to the increased uncertainty of internationalization, integrating processes become even more important

to project success and may be enhanced through best practice dissemination, incentive and control processes, and conscientious processes to orchestrate project or organizational culture.

MODULE 3 LEADING INTERNATIONAL TEAMS

Leading international teams requires understanding team development and communication best practices to ensure the project teams are effective and high-performing in face-to-face and virtual environments. This module explores approaches to leading and managing international teams, including team development, communication, and virtual team leadership to support international project success. The expert international project managers ranked virtual team leadership and technology integration as the second most important international business competency.

Because globalization has been strengthened through the technological advancements of the 20th and 21st centuries, international project managers must embrace technology to manage international teams. Since the 1990s, technology has moved from a mechanism to support group functioning to an integral part of team processes and performance (Larson & DeChurch, 2020). Technology both enables and limits communication in project teams (Azriel & Marcirio Silveira, 2018), and a digital divide still exists today (Pikhart, 2020). International project managers must utilize technology's benefits and minimize team functioning and performance limitations.

MODULE 4 INTERNATIONAL PROJECT PLANNING

Research has demonstrated the positive influence of planning competencies on project success (Dvir et al., 2003) and the value of coordinated approaches to project planning (Zwikael, 2009). To reduce LOF, international project planners should consider between-country differences regarding the political economy, culture, ethics, and location-specific advantages or disadvantages relevant to project success. Also, resource transactions among a project's global web of activities may differ in linkages and over time. These differences pose elevated uncertainty, opportunities, and risks for project planners. International planning effectiveness relies on how these international factors are assessed and accounted for during the project initiation and planning stages. Each component of the project management plan should include international contingencies. For example, cost planning should consider exchange rate volatility and compare resource pricing differentials for different sourcing locations. Scope and schedule might benefit from distributed activities located to leverage time zones for round-the-clock workflow and simultaneously capture country-specific resource advantages. Risk and quality plans must identify unique national and cross-national impacts stemming from controllable and uncontrollable factors such as weather patterns, volatility of political economies, real or intellectual property protection, corruption, and contract reliability, or a range of human resource factors native to the host economies.

Procurement planning should consider resource components' price/quality/availability, for which the cost/benefits formula may vary over time and source location. Stakeholder and communication planning complexity intensifies as more international participants escalate

culture-specific requirements and motivations to bear on project success. The deeper a project manager's comprehension of international environments, the more knowledge, experience, and project success factors can be applied to the project plans. The significance of international planning competency applies to more predictable waterfall contexts and the agile approaches characteristic of more ambiguous situations.

MODULE 5 INTERNATIONAL HUMAN RESOURCE MANAGEMENT

Part of team performance includes identifying needed skill sets, recruiting qualified candidates, and providing training and development opportunities to encourage team cohesion and collaboration, which is valid for all project teams. The unique context of international project teams makes it even more critical to understand human resource management practice variations among nations. International human resource management focuses on recruitment and selection, compensation and performance evaluation, and training and development of employees in organizations, considering the differences among nations in how these practices are enacted. It is recognized that differences exist in human resource practices for different countries, and despite increasing globalization, these differences are likely to remain (Al Ariss & Sidani, 2016). The surveyed international project management experts ranked knowledge of international aspects of resource management in the top 20 competencies for international project success. Thus, the purpose of this module is to present the basic concepts of international human resource management and how human resource practices might change across different cultural contexts.

MODULE 6 INTERNATIONAL TRADE REGULATION AND AGREEMENTS

The second strategic and business knowledge module provides an understanding of international trade regulations and agreements. Country differences affect business activities in fundamental ways most relevant in culture, ethics, and political economy, reflecting the interactive effects of a country's political, economic, and legal systems. The political economy's influence on business actions constitutes a broad range of concerns, including political risk, regulatory and economic environments, and the prevailing norms and legal constraints that differ among countries. Country differences in culture and ethics are addressed in a separate module description. Political risk typically arises from government policy or administration, potentially influencing the ease and cost of conducting business, the nature of a country's trade barriers, or the level of corruption in a nation (Busse & Hefeker, 2007). Economic systems influence a country's inflation and interest rate environments, exchange rate fluctuation, financial growth, and wealth distribution (Erb et al., 1996). Legal systems are particularly impactful for projects such as use or business licenses, taxation, regulation, contract law, property protection, and consumer protection.

MODULE 7 INTERNATIONAL PROJECT COORDINATION AND CONTROL

Coordination and control are central themes within international business research (Edström & Galbraith, 1977; Martinez & Jarillo, 1989). Principles of coordination and control extend beyond the organization level to encompass the scope of international project-level operations. Coordination as a management function integrates organizational or project activities to ensure efficient resource utilization, both intra- and inter-organizationally. Coordination challenges are complicated when activities transcend national boundaries and consequently pressure management capabilities. Projects' dynamic and temporary nature requires even tighter coordination in the face of cross-border complexities such as time zone and language differentials, foreign exchange volatility, or international logistics. However, managers must comprehend and act on location-specific factor endowments such as geographical locality, labor rates, intellectual endowments, favorable government support, and industrial or educational infrastructure (Porter, 1997). (Ghemawat, 2007) describes relative distance based on cultural, administrative, geographic, and political differences as critical considerations in coordinating an organization's global web of activities. Appropriate cross-border controls enhance project predictability and harness international asset utilization benefits in concert with coordination mechanisms. Literature has examined antecedents and consequences of control strategies, characteristics of formal and informal controls, and portfolio control approaches (Ning, 2017). International project controls should be introduced in well-orchestrated plans that appropriately engage such considerations as the global stakeholder network, internationally vetted baselines, tolerances, contingency budgets, international contract enforceability, or country-specific risk triggers. International project managers should continuously hone their coordination and control skills to maintain the currency of their competency.

MODULE 8 INTERNATIONAL PROJECT ALLIANCES

An additional strategic and business knowledge suggested by our work is understanding the dynamics of international project alliances. Alliances entail sharing risks and assets and require proactive partnering as a requisite skill. International alliances offer benefits, including facilitating access to foreign assets, sharing costs for developing new or modified products and processes, and potentially merging complementary skills or resources. Strategic alliances have emerged as a compelling international business form in the last several decades because they help ease the uncertainty of foreign operations and mitigate the investment risks of "going it alone." Foreign partners help leverage location-specific knowledge and social capital assets that would be more difficult and take much longer to acquire as an individual effort.

An internationally competent project manager should understand the inherent and changing benefit/risk profile, know how to select appropriate partners, and contractually commit to mutually beneficial project parameters, positioning for equitable gain for various partners. To manage the partnership, project managers must know how to build and maintain productive relationships among the internationally diverse project stakeholders and navigate international

operations' increased volatility. Nevertheless, potential risks include knowledge appropriation, self-seeking behaviors, commitment inequality, or diverging goals and partners' priorities.

MODULE 9 INTERNATIONAL PROJECT LOGISTICS

A related competency to coordination and control is the project logistics function. Project logistics is a type of coordination and quality control extrapolated to the project supply and, in some cases, distribution channels. Logistics are driven by optimizing planning and execution specifications to maintain a constant flow of production resources for the project. International projects typically entail material, personnel, and knowledge contributions from distributed national sources. Maintaining work constrained by schedule, cost, and quality across national boundaries increases logistics uncertainty and complexity while offering efficiencies and cost savings opportunities. Competent project managers may leverage skills from their legal contracting, purchasing, or information systems departments to assist their logistical responsibilities but must maintain adequate international logistics execution competency. Like logistics in a multinational firm, the function can explain significant project performance and product quality variance.

TEACHING APPROACH

As the audience of these modules includes post-baccalaureate students with some work experience in project management, it is vital to create a learning environment that allows them to integrate their personal experiences with the material taught and take responsibility for their learning. Thus, it is recommended that a problem-centered approach be followed to enable mastery and internalization of the knowledge shared. Problem-centered or problem-based learning is not a new concept; it has been successfully used in many contexts. Problem-based learning (PBL) is a teaching method that focuses on the learner and requires students to apply knowledge to solve a real-world problem (Carriger, 2016; Garnjost & Brown, 2018; Savery, 2006; Winarno et al., 2017). PBL appears to be more effective with experienced students (e.g., those found in graduate programs) and when students are familiar with problem-based learning expectations (Garnjost & Brown, 2018). Direct problem-based learning (DPBL, Winarno et al., 2017) uses a combination of direct instruction and problem-based learning to mitigate the lack of student familiarity with the process. PBL is akin to case-based teaching, but cases usually have an expected solution, minimizing the incentive to direct their learning (Carriger, 2016).

One or more problem scenarios might be used to help students integrate knowledge. For example, for an activity within Module 3, Leading International Teams, the instructor would provide lectures or reading material that explored theories of leadership and how they might be reflected in various cultural contexts and offer a scenario, problem, or case for the students to analyze and offer possible solutions for the embedded issues. Winarno et al. (2017) provide an excellent outline for a typical problem-based learning session, shown in Table 5, with specific examples for this module.

Table 5
EXAMPLE LEARNING ACTIVITY

Associated Module: 3. Leading International Teams
Activity: Solving International Team Performance Through Effective Leadership
Instructional Time for Activity: 1-2 hours over two to three class periods, depending on class time.
Expected Student Effort: 4-6 hours (in-class and outside of class)
Learning Objective: Understand how cultural values influence the acceptance of various leadership styles.

Phase 1 Introduction and Identification

- Before the initial session, relevant reading materials and the problem are posted on the course learning management system. Students are expected to review the material before the session.
  - Suggested Reading: Leadership Styles (e.g., Gundersen et al., 2012; Jogulu, 2010; Kuchinke, 1999), Cultural Values Framework (e.g., Minkov et al., 2011; Morden, 1999)
- At the start of the session, the instructor reviews the new concepts in a short lecture and checks for understanding. The instructor presents the problem or scenario, provides guidelines for resolution, and organizes the class into groups of 4-6 students.
  - Suggested Problem: A project manager has trouble managing her project team, whose members represent three countries with different cultures. The team is not meeting project deadlines, and the project sponsor is unhappy. The project manager must consider the role of culture on team performance and determine the best leadership style to get her team to work together and meet project deadlines.

Phase 2 Application and Solution

- *This work may be conducted outside of a formal class meeting.* Each group reviews the problem scenario, identifies assumptions and options, conducts research to support their analysis, and prepares a class presentation based on their recommendation.
  - Suggested Analysis Approach: Each group should develop a recommendation for the most appropriate leadership style for the project manager to apply in this situation, considering the team members' different cultural value frameworks. It may be helpful to offer the team an analytical framework that guides them through problem identification, identification of assumptions and constraints, and identification and comparison of multiple options that may be selected.

Phase 3 Evaluation and Solution

- At a subsequent class meeting, each group presents its recommendation to the class. The class collectively evaluates each recommendation and discusses its strengths and challenges, focusing on its relation to the course material.
- The instructor reinforces the learning objectives and checks for understanding before completing the activity.

DISCUSSION

Our data indicate agreement by international PM practitioners that the existing PM knowledge base would benefit from the additional focus on relevant IB concepts. Open-ended survey questions asked respondents for additional IB topic suggestions beyond the included inventory but yielded few substantive additions. These findings identify a combination of preferred IB topics that constitute a reasonable framework of IPM learning modules to enable project organizations to build and execute their international operating capabilities more

effectively. The importance of these strategic capabilities escalates for project-oriented organizations as globalization intensifies their scope and frequency of cross-border activities.

Organizational learning provides a foundation for developing personal competencies and organizational capabilities focused on specific fields of knowledge or expertise. The strategic value of capabilities depends on the degree to which the capabilities incorporate personal or organizational experience, lessons learned, effective mentorship processes, and other learning activities. A beneficial resource directly geared to learning processes is specialized training and development deployment. However, the worth of such interventions relies on knowledge that reflects contemporary best practices and situational phenomena but is tempered by experiential validation. This study has drawn upon knowledge from the field of international business and has sought validation of those IB learning topics from practitioners within the field of project management. This approach is unique and creative for mapping a body of educational content that, to a substantive degree, has demonstrated support from working practitioners.

From a theoretical perspective, liability of foreignness suggests that lesser experienced, under-resourced, or knowledge-deficient projects would face disadvantages in internationalization due to these deficits. This study crafts a resource-based view of these disadvantages that project organizations should build capabilities to accelerate their international learning and thereby reduce their liabilities of foreignness. Human resource competencies may be the most critical resource for advancing international capabilities, and a vetted training and development curriculum would provide a tool for enabling such competencies. As companies invest in human resource development, they empower project managers with the knowledge to understand international business environments and the organizations to mature internationalization more effectively.

LIMITATIONS AND FUTURE DIRECTIONS

This study is limited in at least a couple of regards mentioned below. It is exploratory and employs a more qualitative approach than empirically inclined methodologies. For this reason, its findings may evolve to incorporate new internationalization perspectives and avenues of learning. The sources of international business topics were derived from two academic textbooks that were both market leaders, one in international business and the other in international management. Although these are broad in scope, incorporating a macro perspective in one and more micro in the other, additional IB information sources are abundant, ranging from the scholarly research literature to popular and practitioner press and even to other academic textbooks that would undoubtedly reveal additional topics and understanding of IB phenomena. Another limitation stems from the narrow demographic of sample respondents that were solely US-based and gender-biased to the extent that less than 1% were female. Another limitation worthy of mention is the need to field test the proposed curriculum to discover gaps in the learning model and to work out unforeseen shortcomings in the topics to be delivered. Field observation and testing of the curriculum in actual situations will offer an extended avenue of validation and refinement by usage. In addition, field testing provides the opportunity to assess the effects of this curriculum on student learning or related performance outcomes.

This paper describes an education and training program that will help develop international business competencies for project managers, supporting their organization's capabilities to mitigate the potential liability of foreignness. This work intends to create visibility of a gap in project management education and offer a learning solution to narrow the gap in the associated body of knowledge. The rankings of our sample validate the proposed curriculum. The curriculum will benefit from field testing and should adjust its learning objectives as a continuous feedback cycle.

This study is exploratory at this stage, and the intended conclusions are neither descriptive of phenomena nor predictive regarding project or organizational outcomes. Instead, the study is in the scholarship of teaching and learning to narrow an existing project management knowledge gap. It aims to propose an interdisciplinary knowledge transfer for utilization within an underrepresented professional discipline. As such, research limitations do exist. The pool of international project management experts was limited in nationality to U.S.-based project and program managers, contributing to a potential loss of generalizability. The study lacks field observation and testing of the curriculum in actual situations. The curriculum needs validation and refinement by usage, as evaluation of the effect of this curriculum on student learning or performance outcomes did not occur.

The next step for this research will be pilot testing of the proposed curriculum. At this point, the curriculum presented herein is merely a suggestion but may be relevant for other graduate business programs to use as a starting point for developing their programs. Further research will be required if an international credentialing organization decides to pursue an international project management credential. Future work toward credential requirements would be generalizable, but the current exploratory study does not assume that characteristic. Pilot testing will offer additional content verification and observation of learning processes. Longitudinal assessment of outcomes may indicate the predictable outcomes of training effectiveness and areas of need for curriculum modification. Training content could be aligned more closely with professional standards to link more clearly to existing project management professional development standards. Collaboration with existing certification learning providers might leverage standard processes to reduce learning curves and liability of foreignness substantially.

This exploratory study is the groundwork for significant theoretical and empirical contributions and application to practice. An active and evolving body of IB theory has developed over 200 years, from Adam Smith's economic justification of free trade (Smith, 1910) to more recent work by Porter explaining the competitive advantage of nations (Porter, 1997). Literature has tested and empirically validated IB theories at the levels of nations, organizations, and individuals, yet the discussion of global activity at the project level is sparse. Project studies, however, is less developed as a theoretical research field but has drawn its applied concepts from operation science and organizational behavior and strategy. We envision a research area ripe for growth and productive outcomes like the evolution of international entrepreneurship that has grown substantially since its seminal work merging the younger field of entrepreneurship with more established IB theory (McDougall & Oviatt, 2003).

CONCLUSION

This study identified the most important international business competencies perceived to positively impact international project managers' performance. The highest priority competencies were used to formulate an international project management training program. Finally, an example approach was suggested to deliver this training to meet international project managers' needs. Project management training providers (in or out of higher education) may find this information helpful in building their international project management curriculum.

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IMPACT OF PSYCAP ON COLLEGE STUDENTS' ENTREPRENEURIAL INTENTIONS: REPLICATION AND EXTENSION

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ABSTRACT

Psychological Capital (PsyCap) can potentially play a big role in developing future sustainable entrepreneurs. Sebora & Tantiukoskula (2011) were the first to explore the relationship between PsyCap and entrepreneurial intention. This study replicates the findings of the Sebora & Tantiukoskula (2011) study while also extending it in two ways: 1) exploring the relationship between entrepreneurial intention and the four individual dimensions of PsyCap (self-efficacy, optimism, hope, and resiliency) and 2) exploring the impact of PsyCap on effectuation entrepreneurial intent. Findings suggest that the PsyCap dimensions of resiliency, self-efficacy, and optimism are the most important dimensions when it comes to entrepreneurial intention. The PsyCap dimension of resilience also indicated that these potential entrepreneurs will be better able to sustain the challenges of a new start-up in order to create a more robust economy and vibrant society. In addition, when it comes to effectuation, the PsyCap dimension of resilience is the most important. This strengthens the potential for sustainability during the implementation of a new venture. Implications for entrepreneurship educators are provided.

Keywords: *Psychological Capital: Entrepreneurial Intentions; Resiliency; Self-Efficacy; Hope; Optimism, Sustainable Entrepreneurship*

INTRODUCTION

Over the years there has been an increased interest in offering curriculum within the discipline of entrepreneurship. Entrepreneurship educators have been tasked with creating a curriculum that helps to mold and develop future entrepreneurs who create sustainable businesses that are resilient to the permanent white water (Vaill, 1996) of new start-ups. While most curriculum focuses on the causal and effectual techniques of what entrepreneurs should do, some have suggested the need to consider personal aspects or characteristics of individuals pursuing entrepreneurial pursuits. It might be through these personal characteristics that we can create more resilient and sustainable new ventures.

It has been suggested the need and importance of having individuals start new businesses and the role that will play in future economies (Clifton, 2011). This falls directly in line with the topic and research stream of entrepreneurial intention which has grown rapidly since the early nineties (Linan & Fayolle, 2015). Entrepreneurial intention is defined as a commitment or conviction to set up or to start a new business in the future (Krueger, 1993; Thompson, 2009). There is a significant stream of research regarding entrepreneurial intent (Valliere, 2015) and sustainable entrepreneurial ecosystems (Volkmann, et al., 2021). Linan and Fayolle (2015) provides the most up to date review of the subtopic of entrepreneurial intent. Thus, the concept of entrepreneurial intent is of great importance since it is essentially the first step in starting a business (Molino, et al., 2018). To assist in providing future entrepreneurs with critical information needed to be successful, entrepreneurship educators try to determine what to teach and what to share with their students as they ponder the decision to start a new business in a very turbulent economic environment which will require perseverance and resilience.

A recent area of interest to determine what makes entrepreneurial intention successful is psychological capital (PsyCap). Luthans, et al. (2007) provide a comprehensive definition of PsyCap and its four sub-components:

> *"PsyCap is an individual's positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success" (p. 3).*

A study we found that was conducted by Sebora and Tantiukoskula (2011) stood out to us for several reasons. One, this study claimed to be the first study to explore the relationship between PsyCap and entrepreneurial intention. Two, the findings from the study suggested that a high level of PsyCap would lead to greater entrepreneurial intention. Third, given the nature of our work as management educators, conducting research with a population of college students could inform us on how to improve sustainable entrepreneurial intent for our students.

While the results of this study linked PsyCap to entrepreneurial intention were promising, we were interested in extending this research for several reasons. First, to add to the literature.

This study is one of few that we could find that has explored the role of PsyCap in connection with entrepreneurial intention. By doing an extension, we are trying to see if we can replicate the findings of the original researchers.

The second reason is for the development of future sustainable entrepreneurs and sustainable entrepreneurship. In the literature, there is discussion about different types of attributes that an entrepreneur possesses – Trait-like attributes and State-like attributes. Trait like attributes are somewhat like personality, which is viewed by some to be mostly fixed and not changeable. For example, the BP10 assessment developed by the Gallup Corporation (Clifton & Badal, 2018) is an example of this. State-like attributes, on the other hand, are items that can be developed over time. For example, Morris, Webb, et al. (2013) developed an instrument to identify 13 general entrepreneurial competencies that people can develop and improve over time. It is interesting to note that PsyCap as a whole is considered to be a state like construct (Sharma & Sharma, 2015), which suggests that a person can develop and improve their PsyCap over time. Helping to improve a student's PsyCap during their college years can shape their attitudes and intentions toward entrepreneurial ventures (Shirokava, et al., 2017).

A third reason for extending this study is that it contributes to and fits within the existing question in entrepreneurship concerning whether entrepreneurs are born vs. made. Relatively speaking, the entrepreneurship research domain is new in comparison to other domains in management. It is following the same kind of development that the field of leadership did. At the beginning of the leadership research era, the predominant thought was that leaders were born. As a result, early research focused on leadership traits to identify leaders (Northouse, 2019). Then over time, the paradigm shifted to that leaders could be developed. As a result of that, the pendulum swung which ushered in new studies around leadership behaviors. This applies to entrepreneurship because one of the central questions in entrepreneurship has been *"Are entrepreneurs born or made?"* If one adopts the position that entrepreneurs are born, then it would make sense to choose only those traits that entrepreneurs are found to possess and just assume that nothing else can be done. However, the current dominant theme in entrepreneurship is that entrepreneurs are made. If we adopt the latter premise, then we have to figure out what can be done and taught in the classroom to make and develop new entrepreneurs.

A fourth reason for extending this research is to do a deeper dive into understanding the connection between PsyCap and sustainable entrepreneurial intention. Existing literature has looked at this relation at a surface level, assuming both as two individual constructs. As stated earlier, within the PsyCap construct, there are four subcomponents: self-efficacy, optimism, hope, and resiliency (sustainability). We were curious to know if each subcomponent played an equal role or if perhaps only a few were significant. This has implications and motivation for entrepreneurship educator to choose those things that we can do something about and that would have the greatest benefit in the classroom. However, as mentioned before, when looking at studies that examined the connection between PsyCap and entrepreneurship, they only looked at PsyCap as a single overall construct rather than a multi-dimensional construct with four separate components. Our thinking is this. We find that when all rolled together, PsyCap does have an effect. But if we were to break the PsyCap down to its multi-dimensional sub-components, would we find out that each of the sub-dimensions don't equally have an impact on someone

wanting to be an entrepreneur? This is important to know. Why? Because if we invest dollars in entrepreneurship education and training that doesn't have much significance or impact, we have potentially wasted resources.

In consideration of the above points along with guidelines provided by Block and Kuckertz (2018), we believe that a further examination of the connection between PsyCap and entrepreneurial intention is needed. Thus, our goal is to build upon entrepreneurial intention theory in two ways: 1) to see if we can replicate the results of the Sebora and Tantiukoskula (2011) study which would add to an area of entrepreneurial intention research that is essentially non-existent and 2) to extend upon Sebora and Tantiukoskula (2011) study to provide a deeper analysis as to which components of PsyCap have the biggest influence and to build theory as to why that may be the case. While the value of replication research is questioned by some, it is an essential activity needed when expanding, improving, strengthening, and validating scientific knowledge (Block & Kuckertz, 2018; Plucker & Makel, 2021; Tyson, 2014). This is especially needed given that this stream of research is scarce and inconclusive (Contreras, et al. 2017). It is our hope that these insights would provide value and direction to current and future entrepreneurs who what to build a sustainable entrepreneurial ecosystem.

LITERATURE REVIEW

As stated earlier, we understand that when considering PsyCap as a single construct, there is an overall connection with entrepreneurial intention. What is unclear is whether each of the subdimensions of PsyCap (self-efficacy, optimism, hope, resiliency) play an equal effect on entrepreneurial intention or some more than others. This would require looking at each sub-dimension of PsyCap individually. Therefore, our literature review is structured in such a manner to focus on our efforts for replication and extension.

The replication section of the literature review will discuss any new recent developments in the context of the original study. The extension section of the literature review will examine any research or studies that have determined any connections between one or more of the four sub-dimensions of PsyCap and entrepreneurial intention. These insights will be used to guide the development of hypotheses to be tested.

Replication

When replicating a study, it is important to identify key aspects of the original study. Below, we have identified two key takeaways from the Sebora and Tantiukoskula (2011) study as it related to our research.

Identifying Entrepreneurial Talent. First, the findings of the study fit right into one of the chief objectives outlined by Clifton (2011). Sebora and Tantiukoskula (2011) state that "an individual who has a high level of PsyCap tends to have a greater intention to pursue entrepreneurship as a feasible career option" (p. 12). Given this, when trying to identify future entrepreneurs, PsyCap is an instrument or tool that can be used in the screening process.

College Students. Second, the population used in the Sebora and Tantiukoskula (2011) student consisted of college students. Hsu, et al. (2017) argue that undergraduate students are the best sample for studying entrepreneurial intentions. As with a study conducted by Gonzalez-Lopez, et al. (2019), the use of a sample population of college students was helpful in determining that one subcomponent of PsyCap (resiliency) was key in predicting entrepreneurial intention. As management educators at the college level, it is our position that while high school is a good starting point, there are a variety of factors (i.e. demographics, lack of access to education and/or training materials, etc.) that could cause a potentially budding future entrepreneur to be lost in the mix within a high school setting. Illustrating this point using a sports analogy, there are examples of future Hall of Fame athletes who excelled in college but were overlooked and under-recruited while in high school because of other factors such as not being involved in AAU sports, no access or resources to attend camps, or coming from a small town or an unknown school. We believe that college is another avenue to identify entrepreneurial talent that may have been missed at the high school level, and it would make sense to do this at the college level as well considering that most formal entrepreneurship training occurs at a college or university (Morris, Kuratko, et al., 2013).

Research studies on PsyCap and Entrepreneurial Intentions – 2011 to present

Given these two takeaways mentioned in the previous section, we deemed it necessary to replicate this study in an attempt to affirm the relationship between PsyCap and college student's entrepreneurial intentions. When replicating a study, it is good practice to determine if there have been any other studies examining PsyCap and Entrepreneurial Intentions since the publishing of the original study. In addition, it would be important to determine if any researchers attempted to replicate the original study.

To answer this, we searched for articles that were published that included PsyCap and Entrepreneurial Intentions as measures of study since 2011 and to determine if the subsequent study either mentioned or referenced Seboro and Tantiukoskula (2011) in it. Upon a review of the literature, we found one study conducted by Contreras, et al. (2017) that was as close as possible to the original Sebora and Tantiukoskula (2011) study even though it was not referenced in the original study. In that study, the findings indicated that Psychological Capital as a whole was related to entrepreneurial intention (Contreras et. al, 2017).

Thus, we believe that by conducting this replication we are contributing to this research stream. Therefore, to best replicate the Seboro and Tantiukoskula (2011) study, we adopted their original hypothesis:

> *Hypothesis 1: The intention to become an entrepreneur is positively associated with an individual's level of psychological capital.*

Extension #1: Individual Dimensions of PsyCap

The first extension we hope to do to the Sebora and Tantiukoskula (2011) study is in regard to the individual components that make up the PsyCap construct. PsyCap consists of four separate dimensions that include resiliency, self-efficacy, hope, and optimism. An example of an inventory item for each of these dimensions is provided below:

Resiliency: "I usually take stressful things required in new business preparation in stride."
Self-Efficacy: "I feel confident acting on a new idea for a business when others do not."
Optimism: "I approach my preparation for a new business as if "every cloud has a silver lining."
Hope: "At the present time, I am energetically pursing my new business goals."

To extend our study, we think it is important to explore the relationships between entrepreneurial intent and the four individual formative dimensions that make up PsyCap, since the original study did not do this and viewed it as a single construct. In other words, the original study only examined the relationship between entrepreneurial intent and the unidimensional nature of PsyCap. And while the Contreras, et al. (2017) study was intent and explicit on examining Psychological Capital as a whole, their findings did indicate that all dimensions of PsyCap were related to entrepreneurial intention (specifically self-efficacy and resilience), and that each dimension of PsyCap had a different relation with entrepreneurial intention. As an extension, it is our intent to look at each subcomponent of PsyCap individually in its relationship with entrepreneurial intention to explore if one or more subcomponents plays a bigger role, or if all subcomponents are equally important. It is important to acknowledge that while we agree with the position that the synergy of all four dimensions of PsyCap are important (Sebora & Tantiukoskula, 2011), from a management educator's perspective, we think it is equally important to examine the relationships between Entrepreneurial Intentions and each individual dimension of PsyCap. As a result, the following hypothesis to extend the original study was developed:

Hypothesis 2: The intention to become an entrepreneur is positively associated with each of the four dimensions of psychological capital (resiliency, self-efficacy, hope, and optimism).

Extension #2: Effectuation

The second extension to the Sebora and Tantiukoskula (2011) study is in regard to effectuation, which is a new and emerging area within the entrepreneurship domain. In terms of instruction and training entrepreneurs, an effectual training approach contrasts with a causal training approach. Sarasvathy (2001) discusses the underlying differences between these two processes:

> *"…Causation processes take a particular effect as given and focus on selecting between means to create that effect. Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means" (p. 245).*

In order to provide a practical approach for effectuation, five effectuation principles were developed: 1) Bird-in-hand, or "Start with your means"; 2) Affordable Loss, or "Set affordable loss"; 3) Lemonade, or "Leverage contingencies"; 4) Crazy-Quilt, or "Form Partnerships"; and 5) Pilot-in the-Plane, or "control the controllable" (Society for Effectual Action, nd; Sarasvathy, 2008). In many ways, these five effectuation principles speak directly to sustainable entrepreneurship. Despite the fact that effectuation has its critics (Arend, et al., 2015), entrepreneurship scholars have contributed new articles and studies to this research stream since its introduction (Sarasvathy, et al., 2014). In addition, effectuation principles have been included in various resources and textbooks in teaching entrepreneurship to college students (Clifton & Badal, 2018; Neck, et al., 2018; Read, et al., 2017).

Three reasons exist for incorporating effectuation as part of extending the Seboro and Tantiukoskula (2011) study. First, effectuation is a very action-oriented approach to entrepreneurship based on the assumption of learning through trial and error. It is having the capacity to take on challenging tasks (self-efficacy), having a positive outlook (optimism) about success, persevering toward goals (hope), and when challenges arise having the fortitude (resiliency) to sustain the effort to succeed. Is this not what sustainable entrepreneurship should look like? One could argue that this is in line with entrepreneurial intention since it involves actual steps being taken towards starting a business. Second, it relates to the instruction method used to teach the students in this study. Some approaches to teaching entrepreneurship use a primarily causal approach or an effectual approach. Others use a combination of both in training. In our study, the educational approach used to teach students was an effectual approach. Third, Valliere (2015) suggested that any measure of entrepreneurial intent must take into consideration and consider the effectual nature of entrepreneurship. As a result, Valliere (2015) developed a specific instrument to do so. As a result, two additional hypotheses have been added to explore any relationships between effectuation, PsyCap (four dimensions), and entrepreneurial intent:

> *Hypothesis 3: The effectuation intention to become an entrepreneur is positively associated with an individual's level of psychological capital.*
> *Hypothesis 4: The effectuation intention to become an entrepreneur is positively associated with each of the four dimensions of psychological capital (resiliency, self-efficacy, hope, and optimism).*

METHOD

Participants

The total participants in this study were 125 students studying entrepreneurship at an upper Midwest university. They were recruited by sending an email to each student asking them to participate in this study. One hundred and three (82.4%) completed at least some portion of

the survey. Of the 103 surveys, we actually collected 94 complete surveys; nine individuals started the survey but did not complete the survey. This give us a 75.2% return rate of completed surveys. To take part in the study, each participant had to be enrolled in either a major or minor in entrepreneurship at the time they completed the survey. Each subject was asked to complete an electronic survey on their entrepreneurial psychological capital dimensions, two entrepreneurial intention scales, and then to answer a few demographic questions. The subjects did not receive any incentive for their involvement in the study.

Measures

In line with a replication study (Plucker & Makel, 2021), we used the Sebora and Tantiukoskula (2011) Entrepreneurial Psychological Capital (PCQ) scale (Cronbach alpha = .93 from our study). In addition, we used the Linan and Chen (2006) eleven item Entrepreneurial Intention Questionnaire (EIQ) (Cronbach alpha = .95 for our study). In order to extend this study to include effectuation, we utilized Valliere's (2015) eight item Effectuation Entrepreneurial Intent (EEI) scale (Cronbach alpha = .94 for our study).

Procedure

The survey was developed in Survey Monkey and distributed electronically via email to the 125 potential participants. There was one follow-up email sent to the potential participants. When the data was downloaded from Survey Monkey the IP address were immediately deleted, so no participant could be identified.

Analysis

The Survey Monkey was downloaded to Excel and the text data was converted to numerical data. Next the numerical data was uploaded to SPSS. The statistical analysis was conducted using SPSS. After the SPSS data set was created, it was checked for errors. Next, consistent with Tukey's (1977) advice to get to know your data, we produced a series of descriptive and exploratory data analyses to examine the data. We used SPSS's *explore* function to determine outliers, unusual values, and peculiarities in the data set. Each finding was traced back to the original electronic questionnaire and was corrected before any further analysis was done. This process was followed to ensure the data set had no errors. In doing this we identified that nine of surveys were unusable. These data rows were eliminated to give us the 94 usable subjects.

RESULTS

The mean age of the participants in this study was 21 years with a range from 18 to 26 years of age. The median age was 21. There were 58 (62%) men, 35 women (38%) and one missing data point in the sample. The majority (67 individuals 71%) of the participants were

from the College of Arts and Sciences where the entrepreneurship program was housed. The other 24 participants were scattered throughout the other university's colleges with no other college having more that 12% of the subjects. Again, 67 participants were majoring in entrepreneurship while the other 27 were earning majors in other disciplines while seeking a minor in entrepreneurship. There were 25 sophomores (27%), 31 juniors (33%), 36 seniors (38%), and one freshman (1%) and one missing piece of data (1%).

In the Sebora and Tantiukoskula (2011) study the authors only looked at entrepreneurial psychological capital in a single scale. While we will do this too to replicate their study, we will also examine the four dimensions that make up psychological capital. Therefore, we calculated the Cronbach alphas for each of the four dimensions. The four psychological capital Cronbach alphas are as follows: Resiliency (.80; 6 items), Self-efficacy (.88; 6 items), Hope (.80; 6 items), and Optimism (.63; 6 items). All very acceptable for a stable assessment instrument.

In the Sebora and Tantiukoskula (2011) study, the authors looked at a number of control variables such as age, gender, major, college year, and entrepreneurship knowledge. Only gender and entrepreneurship knowledge (measured by the number of courses completed by the subject) were significantly correlated with entrepreneurial intention, and both of them were negatively correlated with intention. These two control variables reduce the intention to be an entrepreneur. We did not have access to the course these students had taken so we could not use this as a control variable; however, we did ask for their gender. Table 1 shows the means, standard deviations, and correlation for this replication study.

Table 1
Means, Standard Deviations, and Intercorrelations for Dependent and Independent Variables (n=94)

Measures	Mean	SD	1	2
1. Entrepreneurial Intention	49.35	11.18		
2. Gender	1.38	.49	-.202*	
3. Psychological Capital	101.69	16.19	.718**	-.107

* Correlations is significant at the 0.05 level (2-tailed)
** Correlations is significant at the 0.01 level (2-tailed)

Just as Sebora and Tantiukoskula (2011), we also found gender is negatively correlated with entrepreneurial intention. In other words, as our data moves from male to female the intention to become an entrepreneur goes down. This is consistent with additional studies that examined the role that gender plays in entrepreneurial intention (Zhang, et al., 2014). Next, we performed stepwise linear regression putting gender into the regression first then followed by psychological capital. Table 2 shows the results of this regression analysis.

Table 2 **Results of Full Model Regression Analysis (n = 94)**						
Variable		*B*	*SE B*	*t*	*p*	R^2
Constant		-.639	5.278	-.12	.90	
PsyCap		.492	.05	9.62	.000	.50

While we entered gender into the regression first, it did not stay in the final regression model. However, psychological capital (PsyCap) did with an R^2 of .50. This confirms the replication of the earlier study and Hypothesis 1.

As we said earlier, Sebora and Tantiukoskula (2011) did not examine the four dimensions of psychological capital. These seems to be an important next step to determine where we as entrepreneurship instructors should put our emphasis. Table 3 shows the means, standard deviations, and correlations for the four dimensions of Psychological Capital, and entrepreneurial intention.

Table 3 **Means, Standard Deviations, and Intercorrelations for Dependent and Independent Variables (n=94)**						
Measures	Mean	SD	1	2	3	4
1. Entrepreneurial Intention	49.35	11.18				
2. Resiliency	25.89	4..56	.686**			
3. Self-Efficacy	25.68	4.96	.675**	.820**		
4. Hope	25.44	4.73	.603**	.819**	.792**	
5. Optimism	24.68	3.80	.603**	.702**	.622**	.626**
** Correlations is significant at the 0.01 level (2-tailed)						

Table 4 shows the regression analysis using Forward method. In this way, the regression model selects the dimension that explains the most impact on entrepreneurial intention. Next the regression analysis determines if any of the remaining dimensions can be added to the equation to significantly explain more of the impact on intentions. The only dimension which did not enter the equation was Hope. The explained R^2 with the other three dimensions in the equation is .52.

Table 4
Results of the Full Regression Analysis with PsyCap Dimensions (n = 94)

Variable		*B*	*SE B*	*t*	*p*	R^2
Constant		-1.924	5.47	-.35	.73	
Resiliency		.69	.34	2.01	.05	.47
Self-Efficacy		.71	.29	2.47	.02	.51
Optimism		.62	.30	2.07	.04	.53

This partially confirms hypothesis 2. Three of the four dimensions entered into the equation; however, hope did not enter into the regression model.

As we posited above, three of the authors use the effectuation method of teaching entrepreneurship. So, it seemed appropriate to examine psychological capital against the effectuation entrepreneurial intention scale as a further extension of this research. Table 5 is the means, standard deviations, and correlations for the effectuation entrepreneurial intention scale, the total psychological capital score, and the four dimensions of psychological capital.

Table 5
Means, Standard Deviations, and Intercorrelations for Dependent and Independent Variables (n=94)

Measures	Mean	SD	1	2	3	4	5
1. Effectuation Entrepreneurial Intention	26.44	9.31					
2. Total Psychological Capital	101.69	16.18	.513**				
3. Resiliency	25.89	4..56	.477**	.937**			
4. Self-Efficacy	25.68	4.96	.453**	.915**	.820**		
5. Hope	25.44	4.73	.468**	.912**	.819**	.792**	
6. Optimism	24.68	3.80	.439**	.806**	.702**	.622**	.626**
** Correlations is significant at the 0.01 level (2-tailed)							

Table 6 shows the results for hypothesis 3. While hypotheses 3 is supported, it should be recognized that the R^2 is significantly lower here at .26 verses .50 for the earlier entrepreneurial intention scale.

Table 6
Results Full Model Regression Analysis using Effectuation Entrepreneurial Intentions (n = 94)

Variable		*B*	*SE B*	*t*	*p*	R^2
Constant		-3.57	5.30	-.67	.50	
PsyCap		.30	.05	5.73	.000	.26

Finally, Table 7 shows the results of the four dimensions being entered into the regression analysis using Forward method for effectuation entrepreneurial intentions. In this regression only resiliency entered the regression model. Again, the R2 is reduced from .52 to .23.

Table 7
Results of the Full Regression Analysis with PsyCap Dimensions & Effectuation Intent (n = 94)

Variable		*B*	*SE B*	*t*	*p*	R^2
Constant		1.22	4.92	.25	.81	
Resiliency		.97	.19	5.21	.000	.23

The implications of these findings will be discussed next in the discussion section of the manuscript.

DISCUSSION

Replication

We were successful in replicating Sebora and Tantiukoskula's (2011) findings as our results also indicated that PsyCap is significantly related to entrepreneurial intent for college undergraduate students. Our results also showed a negative relationship between gender and entrepreneurial intentions. As we shifted from male participants to female participants the intention to become an entrepreneur went down. However, contrary to the earlier study, gender did not enter into the regression equation as a significant factor that explained students' intentions to become an entrepreneur. The strong R^2 (.50) for PsyCap provides additional support for the inclusion of PsyCap as a tool for discussion and development in entrepreneurship courses.

Extension

Hypotheses 2, 3, and 4 were in relation to our extending the Sebora and Tantiukoskula's (2011) study. There are several items of discussion from our findings, and they will be discussed in the order of the three hypotheses.

Entrepreneurial Intention and the Four Dimensions of PsyCap (Hypothesis 2). Our findings indicate that resiliency, self-efficacy, and optimism are the most important dimensions of PsyCap when it comes to sustainable entrepreneurial intention. Resiliency accounted for most of the variance (R^2 = .47). At the same time, both Self-efficacy (ΔR^2 = .04) and Optimism (ΔR^2 = .02) added significantly to the total R^2 of .53.

This has two implications for management and entrepreneurship educators. First, it supports our earlier position on the importance of extending the earlier study by studying the entrepreneurial intention relationship to each of the four PsyCap dimensions. Second, knowing which individual dimensions are the most important helps instructors to use their limited class time more wisely. For example, if one only viewed the overall PsyCap measure, the result would be an equal focus on all four dimensions. However, knowing that resilience accounts for the most, an entrepreneurship instructor should consider devoting a considerable amount of time on the resiliency dimension followed by self-efficacy and then optimism.

The Impact of PsyCap on Effectuation Entrepreneurial Intent (Hypotheses 3 and 4). Our findings support that PsyCap does support effectuation entrepreneurial intent. While the R^2 does drop from .50 to .26, PsyCap still provides a significant impact on effectuation entrepreneurial intent. Specifically, as it relates to the four dimensions of PsyCap, we found that resiliency was the only dimension that had an impact on effectuation entrepreneurial intent.

There are two main implications for management educators here. The first implication is that whether the educator is using an effectuation teaching philosophy or a more traditional causal teaching philosophy, resilience should be a key factor to incorporate into entrepreneurship training as it relates to entrepreneurial intent. It should be noted that resilience would be important both before and after a business is started. Since the nature of this study is focused on entrepreneurial intent, we stress the importance of resilience before a business is started.

For example, a guiding heuristic is that there is a big difference between the idea of something and the reality of it. Let's use the example of a nascent entrepreneur. They might be really excited with the idea of being their own boss and being independent, but during the process of taking the first steps to actually start the business, they might learn about additional obstacles or regulations needed to officially start the business. When the student entrepreneur experiences this reality, the educator needs to recognize that this is the time to assist in developing the student's resilience. By developing a student's resilience, the educator expands the student's capacity to sustain the challenges of a new start-up and build the potential for a more sustainable entrepreneurial ecosystem.

The second implication is that our findings give some support to the inclusion of effectuation principles in entrepreneurship education to improve entrepreneurial intent. One could suggest that effectuation actually supports or reinforces the resiliency dimension of PsyCap and by so doing increases sustainability. It could be suggested that since the nature of effectuation is to start small and to be action-oriented, this could help with developing resilience in students. In other words, effectuation helps to influence or improve resilience and as a result, effectuation should be part of the process of training and developing entrepreneurial college students.

LIMITATIONS AND FUTURE RESEARCH

While the original study was successfully replicated using the similar population and region of the country for college students (Midwest), future research should examine if this

would be replicated in different regions of the United States (South, Western, or Eastern parts of the United States). In addition, while both our study and the original study were conducted at large public universities, future research should determine if these results hold when changing the nature of the institution in terms of size (large vs. small), type (four year degree or two year community colleges), and public vs. private. Finally, since this study was based in the United States, future studies should be conducted in other countries.

Another limitation would be in the size of the sample. Our goal was to have a sample of at least 100 that contained complete records, and we fell slightly short of this goal. Collecting a sample across the United States would add significantly to this line of research. Another area of future research is to determine if anything can be done to affect the relationship between PsyCap and Entrepreneurial Intention when it comes to gender. Similar to Sebora and Tantiukoskula's (2011) findings, entrepreneurial intention is lower in females than in males. Future research should look into any possible factors or intervention strategies that could be implemented in entrepreneurship courses to encourage and support more entrepreneurial intention among women entrepreneurs.

Another limitation or criticism is that the models in this study are extremely simple, and that they don't test for other relationships or consider other factors (e.g. mediation/moderation). Given that this is a new area of study, our focus is still exploratory at this point. Researchers who attempt to replicate and/or extend based on our study should consider more complex models.

As mentioned earlier, the subdimension of Hope didn't enter the regression model. Our assumption at this point is that hope is less important to entrepreneurial intention than the other dimensions. A friendly read of this manuscript by an entrepreneurship scholar asked if hope as measured by Sebora and Tantiukoskula (2011) is the same as entrepreneurial passion as measured by Cardon, et al. (2009). Cordon, et al. (2013) define entrepreneurial passion as an intense positive feelings to invent, to found, or to develop. On the other hand, Snyder (2000) defines hope a positive motivational state based on two factors: goal-directed energy or willpower and plans to achieve a goal or a waypower to goal achievement. We do not think these two constructs are the same. However, future research could include both scales and empirically address this interesting question.

CONCLUSION

In summary, all educators know that they have a limited amount of time in which to assist students in the learning process. Entrepreneurship is no exception to this situation. In fact, it might be even more difficult since almost all topics have to start from scratch. Our study coupled with the earlier work done on Psychological Capital and students' entrepreneurial intention assists entrepreneurship educators and trainers in determining where to put their limited resources in order to get the biggest payback for their efforts.

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EXPLORING SUSTAINABLE ENTREPRENEURSHIP: A CASE-BASED STUDY OF THE LIVED EXPERIENCES OF THE FOUNDER OF BEAD & PROCEED LIMITED

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ABSTRACT

A substantive policy encouraging sustainable entrepreneurship globally is represented in the United Nations plan of action as expressed in its publication, Transforming our world: The 2030 agenda for sustainable development.[2] The agenda is operationalized through its 17 Sustainable Development Goals (SDGs). Articulation of the UN's agenda has led to increased support efforts for companies across sectors, regions, and nations to develop and implement sustainable entrepreneurship initiatives. A case-based example of a sustainable entrepreneurship venture in Christchurch, New Zealand, called Bead & Proceed Limited (Bead & Proceed), is presented. Through the development of Bead & Proceed, founder and chief executive officer, Bridget Williams launched this organization in 2019 with a dual-purpose mission. Bead & Proceed's mission is to educate and inspire action towards the United Nation's Sustainable Development Goals (SDGs) through creativity-inspired activities, while concurrently the venture itself is built to be sustainable in its own business practices, decisions, and operations. Bead & Proceed offers a range of SDG engagement and education tools for all industries to increase awareness of SDGs and learn how to put them into action at individual, community, corporate, and governmental levels. A discussion of sustainable entrepreneurship and the UN's SDGs describes what a sustainable entrepreneurial venture that focuses on operationalizing the SDGs (in practice and mission) looks like and offers transferable insights from an entrepreneur who has built a sustainable enterprise.

Keywords: *United Nations, Sustainable Development Goals, New Zealand, youth entrepreneurship, sustainable entrepreneur, experiential learning and teaching*

[2] Transforming our world: The 2030 agenda for sustainable development. (2015). https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

INTRODUCTION

As noted in the Institute for Global Business Research's call for papers in this special issue, "entrepreneurs today are being increasingly challenged to look beyond short-term profits to consider the long-term well-being of people, the environment, and the planet" (Sohmen, 2023, p. 1). This observation extends the idea of financial viability and positive social and environmental impact and shifts it to being not only short-term or even near-term focused, but long-term focused as well. This means that true sustainable entrepreneurship is a key resource to the longevity of our communities. Moreover, this aligns with the most widely accepted definition of sustainable development from the World Commission on Environment and Development (Brundtland et al., 1987), i.e., "development that meets the need of the present generation without compromising the ability of future generations to meet their own needs" (p. 16, listed item number 27).

Sustainable entrepreneurship strives to achieve a delicate balance across three primary factors. These include creating value and increasing the quality of life for society and the environment (through a mission-driven focus); generating financial returns to the business and entrepreneur (actors); and leveraging of innovative business models (Barnardo et al., 2021; Rosário et al., 2022), to improve products, services, production processes, techniques, and/or organizational modes (Schaltegger, 2013). Barnardo et al. (2021) further emphasized the importance of making a positive impact on society and the environment while maintaining financial viability and success. Accordingly, this tripartite balance hinges on an intentional effort on the entrepreneur to leverage resources in innovative ways with the ultimate goal of financial sustainability, without negative impact or consequence on the environment or society in the short-, medium-, and long-run. Abstract definitions and conceptualized practices help to clarify what is meant by sustainable entrepreneurship. Though, concrete examples help to challenge and advance abstraction through realized practices. When these practices are presented by the entrepreneurs doing this work on the ground, transferable lessons can be gleaned and shared. The case-based example provided here is very much intended to bridge theory with practice. The venture, Bead & Proceed Limited (Bead & Proceed), has been methodically built to be sustainable in its operations, but then the purpose (mission) of the venture is to help address environmental issues through education and action (framed by the United Nations 17 Sustainable Development Goals).

SUSTAINABILITY

United Nations 17 Sustainable Development Goals

The United Nations was founded in 1945 on the heels of the resolution of World War II. This adaptive organization is currently made up of 193 Member States and serves to foster a level and accessible playing field where issues that are being faced regionally, nationally, and globally can be democratically discussed, and shared solutions can be adopted for the benefit of

all humanity.[3] In 2015, a concerted effort of UN Member States led to the development of a shared blueprint focused on prosperity for people, peace for nations, partnerships, and sustainability for the planet. The (resulting) 2030 Development Agenda, is practically operationalized by 17 Sustainable Development Goals (SDGs) as depicted on the UN's Department of Economic and Social Affairs, Sustainable Development, website (*The 17 goals*, 2023), as well as graphically, in Figure 1, below.

Figure 1
United Nations 17 Sustainable Development Goals.

Terán-Yépez, et al. (2020) explicitly cited the UN's effort as a practical way that sustainable entrepreneurship is being operationalized through policy in a global way. Schaltegger Beckmann, and Hockerts (2018) identified the UN's agenda and SDGs as applicable frameworks for partnership, collaboration, and sustained cooperation among countries, sectors, and governance levels on a global scale. Additionally, they suggested that the UN agenda has led to an increase in support programs for companies to develop and implement sustainable entrepreneurship initiatives. It seems that SDGs are informing and inspiring practice and action at the government, corporate, and nation state levels. Another symbolic indication of the influence and value of the SDGs to the business education community came recently, when one of the authors of this present paper received an advertisement (via mail) for a new textbook, *Introduction to Business* (Neck et al., 2023). This advertisement for the book, along with the aesthetics of its cover artwork, included a similar periodic table of SDGs that had originally

[3] *United Nations: About us*. (2023). United Nations. https://www.un.org/en/about-us

inspired the founder of Bead & Proceed (the focused case of this paper). In fact, the textbook integrates the SDGs as a lens through which one may think critically, as a sustainable entrepreneur, about the challenges, problems, and opportunities that exist for the global community today.

Sustainability as a Multifaceted Cause

The extensive permeation of the SDGs across countries (all 193 UN Member States have adopted them), cultures and languages, communities, and corporations demonstrates the universal language the framework represents. Additionally, it frames sustainability as a multifaceted cause that is interrelated to economic, environmental, and social issues and demonstrates the interconnectivity across (and among) the 17 SDGs. These 17 SDGs, problematized within the context of entrepreneurship, essentially serve as a repository framing the most pressing challenges of our time. To these ends, it is important to note that nearly every entrepreneurship education pedagogy, curriculum, and best practices, point towards identifying a problem first and working to solve that problem thereafter, e.g., "Idea Generation vs. Problem Generation" (Wilcox, 2017); "Design Thinking" (Gasparini, 2015); and "Entrepreneurial Alertness" (Tang et al., 2012). Awareness of the problem (or problems), as articulated and framed by the 17 SDG's are a precursor to developing interventions to address them. This suggests that in general the field of business is at least acknowledging and stepping in the direction of sustainable entrepreneurship practices. To these ends, sustainable entrepreneurship is among the best vehicles for operationalizing the 17 SDGs. Concomitantly, the SDGs were the catalyst to the business that is featured in our case.

Sustainable Entrepreneurship: From Abstractions to Concrete Realizations

Esteves et al. (2021) presented four case studies from four different nation states' initiatives (i.e., United Kingdom, Portugal, Senegal, & Brazil), focused specifically on the relationship between sustainable entrepreneurship and the SDGs. Interestingly, while each case focused on a different aspect of sustainable entrepreneurship and development, all four case studies shared various conceptualizations of the value of community relationships (and networks), among other themes. The first case referenced the importance of social capital; the next identified nested communality; the third noted mobilizational citizenship; and the last referenced sharing knowledge and experiences through an action learning commons as "the key self-regenerative dynamic" (p. 1431). This fourth case study noted the value of sharing knowledge, experience, and skills across people involved in operationalizing sustainable entrepreneurial ventures as the source for establishing a rich body of collective wisdom. Social capital theory focuses on socially derived resources (e.g., tangible – public spaces; intangible – people) embedded in and developed through relationships as catalysts for social action and influence (Bourdieu, 1986).

Nested layers of communality are built on relationships and promoting the linkages across networks, which spreads innovation (Esteves et al., 2021). Adding to this, Escoffier

(2018) suggested a mobilization of citizenship to build autonomous local empowerment across people (relationships). These observations point to the value and importance of building like-minded communities of people from different backgrounds with the greater purpose of strengthening social capital, aligning values, and operationalizing skills and expertise in a way that frames and extends the work of a sustainable entrepreneur. The SDGs seem to have served as a binding agent for collaboratively advancing this work. To these ends, much like the work of Esteves et al. (2021), this paper hopes to move the topic of sustainable entrepreneurship from definitional abstractions as Muñoz et al. (2018) also observed, to concrete realizations manifested in the actualized practice of sustainable entrepreneurship. This present case on a founder's journey from inspiration to action and from action to sustained impact can help clarify the idea of sustainable entrepreneurship in a practical way. Additionally, the example chronicled here can serve as a teaching case for other developing sustainable entrepreneurs.

METHOD: CASE-BASED EXAMPLE

Schaltegger and Wagner (2011) determined that actors (and/or their companies) who contribute through practice, mission, and core business pursuits to sustainable development can be called sustainable entrepreneurs. Bridget Williams is a sustainable entrepreneur, a co-author of this paper, and the founder and chief executive officer of the mission-driven social venture, Bead & Proceed. Bead & Proceed exists to educate and inspire action towards the 17 SDGs through creativity.[4] This paper adopts research methodology that is exploratory by design due to the emergent and evolving nature of the study of sustainability (and the pursuit of it) within the entrepreneurship context. Contextualizing the exploration is accomplished through further analysis of narratives from the sustainable entrepreneur by co-authors (researchers). Like Guskey (2022), this qualitative approach will adopt inferential research and develop a reflective analysis featuring a sustainable entrepreneurship initiative from the perspective of the founder, but with additional inputs. The purpose is to identify lessons learned, takeaways, and transferable concepts that can better illuminate the intentionality that goes into the development of a sustainable entrepreneurship business model in alignment with the thinking (sustainable entrepreneurship mindset) that underpins this branch of entrepreneurship.

Case study methodology is qualitative and involves investigation and illumination of a single case or small number of cases (Yin, 2014), with the goal of gaining comprehensive understanding of a particular phenomenon, e.g., an event, organization, program, or person (Stake, 1995). In the context of business research methods, Bryman and Bell (2011) identified content analysis, inference, and coding as fitting approaches to determining emergent themes and findings. This study will adopt an inclusive approach to case study methodology whereby, a key participant will also serve as a co-author to more intentionally inform the narrative associated with an exploratory investigation. In this case, we collaboratively collect, analyze, and weave the narrative and emergent themes from the transferable lessons associated with the founding of a sustainable entrepreneurship venture focused on education and SDGs.

[4] *Bead & Proceed: About*. (2023). Bead & Proceed Limited. https://beadandproceed.com/about

Collaborative Autoethnography

In the discussion of methods above, some additional terms are available to be even more precise as to both rationale and approaches. As observed by Gant et al., (2019) autoethnography can be regarded as both a research method and a methodology, and is qualitative in nature. Further elaboration would describe autoethnography as both a process and a product (Ellis et al., 2011). It could be suggested that authors' own experiences may serve to extend understanding of a given phenomenon (Holt, 2003). However, to do so, data is to be analyzed critically (Chang, 2016). As for collaboration, one co-author here is an active sustainable entrepreneur; and others have been significantly involved with social entrepreneurship ventures (we submit this is relatable to some sustainable entrepreneurship endeavors), and overall authors have a blend of experiences as current or previous entrepreneurship practitioners, academics, and scholarly researchers. While it is suspected that many researchers collaborate as they are members of a given discipline (and their relative contributions may be bounded by this), collaborative autoethnography, as a method, methodology, process, et cetera, would hold that: "The interactive nature of (particularly collaborative) autoethnography strengthens ways to explore the relevance and impact of broader socio-cultural experiences with others, expanding these in terms of both breadth and depth" (Gant et al., 2019, p. 3).

INSIDE A SUSTAINBLE ENTREPRENEURIAL VENTURE: BEAD & PROCEED LIMITED

In this section a case focused on a sustainable entrepreneurial venture (Bead & Proceed) is presented in collaboration with the key participant (founder, Bridget Williams) who also serves as a co-author. As such, it begins with its founder's direct account of Bead & Proceed's inception (founder's story). An introduction to the social venture, its legal status, mission, and product/service offerings is given.

A SUSTAINBLE ENTREPRENEUR INCEPTION STORY

"Ready or not, your strengths will come a-knock-in!" – Bridget Williams

> *I studied at University of Canterbury working towards a law and arts degree and got involved in a range of leadership positions including the Student Volunteer Army and Emerging Leaders Development Program. These experiences inspired me to understand the importance of active citizenship and contributing to the community in a positive way. Although law didn't come naturally to me, I pushed through and graduated with an LLB and BA, sought a graduation position, completed my professionals, and started practicing in 2016. However, as the years went by, I noticed my passion and spirit dwindling. After a particularly bad day in court, I felt frustrated by the negativity around me and felt the pull to reignite my creativity… so I made a necklace.*

> *Creativity has always been a part of my identity but in my law job, it wasn't given space nor attention and painting and creating this necklace felt like reconnecting with an old friend. It also made me realize how we don't make time for creativity anymore. I wore the necklace to work the next day, received some complements and thought – perhaps this could be developed into a business? Could people make and paint their own necklaces and tap into their creative side? Almost the next day, I was flipping through an Australian magazine called Peppermint (which focuses on lifestyle and sustainability) and I was struck by this colorful image called the 17 UN Sustainable Development Goals (SDGs).*
>
> *These goals address the biggest issues facing our society from climate action to poverty to gender equality and each goal had a corresponding color. Then it hit me! What if I could create an environment where people could come together to paint a five beaded necklace or keyring in the colors of the top five SDGs they felt called and then put them into action! While painting, people could ideate and brainstorm ways to act upon their chosen goals and the beads would serve as a conversation starter to help spread awareness of the framework and it would serve as a physical reminder on their commitment; thus Bead & Proceed was born!*

Mission Driven with a Clear Purpose

A sustainable entrepreneurial venture must have a clearly articulated purpose and mission. Located in Christchurch, New Zealand, Bead & Proceed is a for-profit social enterprise that exists to educate people on the 17 United Nation's Sustainable Development Goals (SDGs) and inspire action towards them through creativity. Like many social ventures led by sustainable entrepreneurs, Bead & Proceed adopts the heart of a charity with the mind of a business. Bead & Proceed offers a range of experiences and services to engage people to help them tap into their values, skill sets, and creativity and connect with the top five SDGs they personally feel called to put into action. All products are ethically and sustainably sourced to operationalize Bead & Proceed's mission and purpose. Another key part of Bead & Proceed is its one-for-one model, for every kit purchased, another is donated to either a low decile school[5] or a deserving community organization. This aligns to the mission of [UN] Agenda 2030, which is to "leave no one behind." Therefore Bead & Proceed wants to be accessible to everyone and ensure all can participate in understanding and acting upon the goals, which is an essential component of the business model.

Operationalizing the business model is centered on two sub-themes that capture some of the nuance around sustainable business strategy (*Building in Purpose* and *Diversify Your Impact and Income*). Regarding *Building in Purpose*, as noted in the founder's opening vignette the original problem being solved was not about how to address the SDGs, it was about figuring out a way to feel like she was using her strengths and doing good in the world. The original problem experienced was having a bad day in court, which intensified self-reflection about an unmet need. Frustrations led to actions allowing this soon-to-be sustainable entrepreneur/founder to

[5] "A school's decile measures the extent to which the school's students live in low socio-economic or poorer communities" *Schooling in NZ: Ministry funding deciles*. (2022, May 19). New Zealand Ministry of Education. https://parents.education.govt.nz/primary-school/schooling-in-nz/ministry-funding-deciles/

reconnect with creativity-oriented endeavors (a personal passion), that also were associated with purpose:

> *I needed to escape the negativity of the law environment. The initial business idea was about bringing people together to connect to their creativity and through further investigation, the SDGs (these massive global problems) were built into the business – now creativity wasn't the solution, it was a tool to come up with solutions to address the SDGs. This taught me an important lesson: sometimes it's okay to focus on your strengths first then consider how you can use them to make sustainable impact. It's your strengths that add unique value to a business and I believe it's our moral responsibility to create a business that values people and planet.*

Regarding an overarching sustainable business strategy for operationalizing Bead & Proceed's mission, the mantra that as a sustainable entrepreneur you are not trying to find the dollar, you are trying to stack pennies, has been adopted. This references the sub-theme intended to capture the effort to *Diversify Your Impact and Income*:

> *It's about finding different platforms and ways to grow the businesses through a range of services, products, or offerings. You can start with a simple product and then add a workshop experience to it. Doing this isn't just about growing financially, it also improves the customer experience and impact (as a facilitated workshop is more engaging than working through a self-directed roadmap, similarly, a three-month one-on-one coaching program, is more powerful than attending a one-off workshop). The important point is, my mission and purpose, hasn't changed, I've just added more ways to engage and connect with people.*

As depicted in Table 1, the following Bead & Proceed's offerings expanded from the initial bead painting gatherings (tied to UN SDG's) to numerous other formats, including services, consulting, and bead kits, following the guidance, *Diversify Your Impact and Income*.

Table 1
Bead & Proceed product and service offerings, description, and market.

Offering	Product &/or Service	Key Partner	Description
Bead & Proceed (EPIC)	Product & Service	Businesses & Organizations (Schools, Governments, Non-Profits, etc.)	Includes a 3-hour fully facilitated workshop that presents an introduction to the SDG framework, a Bead & Proceed activity whereby participants individually identify the top five SDGs they connect with, and select and paint the color of the corresponding SDGs they plan to action, and generates a follow-up report where all SDG themes, ideas, and findings from the workshop are documented and shared with the business to help align relevant SDGs and targets.
Bead & Proceed (IMPACT)	Product & Service	Conferences & Summits (regional, national, international)	Includes a keynote introduction to the SDG framework that is connected to the event theme, a Bead & Proceed Creativity Station where event attendees can paint in the color of the SDG most important to them, resulting in a commemorative beaded mural that serves as visual data and a symbol of weaving together collective actions to make change.
Bead & Proceed (PROCEED)	Service	Individual Leaders & Managers	A 3-month online coaching program designed to upskill leaders to understand the SDGs and other sustainable and impact frameworks. Helping individuals to harness their unique creative potential to make positive sustainable impact through their leadership.
Bead & Proceed Kit	Product	Individuals	The Bead & Proceed kit has the necessary supplies for 7 people to paint and make their own necklace or bracelet to action and includes an accompanying roadmap and proprietary SDG booklet to learn about and select the most relevant SDGs to them.

Sustainable Decision Making and Mindset

As a sustainable entrepreneurial venture, every decision that is made is a business decision, a sustainability decision, or both. Most of these decisions fall into the latter category; meaning, that nearly every decision a sustainable entrepreneurial venture must make involves its viability as a business, but also is a decision about fulfilling the mission and purpose of a sustainable venture. While this can liberate decision making in some cases, it can also complicate trade-offs, efficiencies, and impacts of the venture. In this context, sustainable decision-making focuses on creating a world that operates respecting and nurturing the three pillars of sustainability: economic, social, and environmental (Rosário et al., 2022; Zhang & Swanson,

2014). By continually asking, "what's the next right thing," or "how can I do this better," social entrepreneurs strive to leave the world a little better than before. These questions help inform the entrepreneur's sustainability mindset (Agu, 2021; Neck et al., 2019; Truong et al., 2022) and help keep them accountable to make decisions that align to maximize impact at every decision point.

To demonstrate this sustainability mindset in action, decisions about who to partner with as suppliers, logistics and optics around shipping, how to reinvest profits based on the revenue model, and how to operationalize value in the business model are critical. Simply stated, sustainable entrepreneurial ventures do not accidentally work with just any partner or make convenient decisions. These decisions are intentional and typically bounded by being both business and sustainability decisions. Every decision can have a positive impact and advance or fulfill the venture's social mission and purpose. For example, partnering and collaborating with other social enterprises that share the same values can compound impact in context of the SDGs. This is captured by the concept of nested layers of communality Esteves et al. (2021), which are built on relationships and developed linkages across networks, which has been recognized as a contributor to innovation and diffusion (Dodgson, 2011; Moya-Clemente et al., 2021; Tello & Yoon, 2008).

In the case of Bead & Proceed, one key partner that prepares the Bead & Proceed beads employs artisans who have hearing, speaking, and other physical disabilities and are often a group marginalized in the work force. In addition to deliberately providing a living wage, Bead & Proceed ensures recycled material is used in all components of the necklace and bracelet kits it sells (e.g., beads from recycled wood, recycled material for instructions and boxes, etc.). Another key partner offers paint products that are free of toxins and for every square meter of paint purchased, the organization saves a square meter of the Amazon Rain Forest. This theme points to a sort of nuanced sustainability ecosystem that has elements that are specific to social ventures. While sustainable decision making is important it should not be paralyzing. Meaning, it is unnecessary to put pressure on oneself (as a sustainable entrepreneur) or the business to get it perfectly right the first time around. An example to capture the essence of this concept is offered in the following:

> *If a business is not in a financial position to invest in the most sustainable outcome and it must first take smaller steps to get to the goal, we should still recognize that direction. A common mistake that businesses make is they think they must commit to being 'Zero Positive' straight away or be 100% waste free. Celebrating only the big audacious goals runs the risk of glorifying sustainable perfection. So long as your mindset is committed to continual growth, that's better than feeling overwhelmed by the need to get it perfectly right the first time and therefore, run the risk of not making any change in case of falling short of this sustainable perfection. This perfection also, doesn't exist as humans are constantly learning and the world of sustainable impact is changing fast. It is the idea that the longer you are in business (sustained), the more opportunities you will have to improve and impact sustainability.*

Social Value Proposition and Delivery for Impact

Another evident hallmark (and emergent theme) of sustainable entrepreneurship is represented in the concept of social value creation, which is concerned with solving social problems or resolving social issues and having the agency to develop ideas for how to address them (Singh, 2016). This theme complements the sustainability mindset and sustainable decision approach adopted by sustainable entrepreneurs (as noted in the previous theme). The work of Bead & Proceed aligns with Escoffier's (2018) conceptualization of mobilization citizenship which focuses on building autonomous local empowerment across people in context of relationships, but also helps extend this idea into an organizational setting. As an example, Bead & Proceed is hyperaware of its social value proposition, which hinges on the following idea and vision:

> *To help participants develop a deep understanding of how interconnected the social, environmental, and economic issues of today truly are. As everyone understands this connection, there is a profound respect for each other and the planet and this is actioned through conscious choices, knowing our decisions make impact. However, with everyone selecting only five SDGs [about which] they personally feel called to action, there would be a sense of focus, knowing you have "permission" to simply work on your five goals – you don't have to try and solve all 17 and this would reduce the "where to start" issue. Bead & Proceed envisions people connecting with each other over the same goals they have chosen, and the SDGs would be a common language throughout schools, councils, organizations, public and private sectors.*

Operationalizing the social value proposition in practice and measuring the impact is an imperative for sustainable entrepreneurial ventures. There is a great concern with determining impact of vision in practice as well. This catalyst point – converting the mission and social value proposition into action – is an important factor in shaping the culture of a sustainable entrepreneurial venture. With Bead & Proceed as an example, the throughline from mission to proposition, proposition to decision making, and decision making into informed action is evident. One key outcome of Bead & Proceed efforts for its business and organization customers is focused on helping people identify what (in the context of SDGs) they care about, and this gives space for a business or organization to understand what motivates its employees and what they individually value. This is where the follow up-report (mentioned in Table 1 – part of Bead & Proceed's event service, "EPIC") provides insight by identifying employees' greatest areas of concern. This process is designed to democratize the SDG alignment process and give direction as to where the business/organization should seek to make its impact, while subtly highlighting the internal challenges (culture) through a safe space (the workshop). A brief vignette featuring a few concrete examples demonstrates this concept from social value proposition to realized impact, which is an imperative for a sustainable entrepreneurial venture:

> *I workshopped with a business that had a strong water and environmental focus. The manager was thrilled to see almost all the staff selected SDGs in their top five relating to climate, water, and the environment (e.g., SDG 6, SDG 13, SDG 14). The manager was thrilled to know*

they had a team who was personally passionate about the work they do! However, SDG five (Gender Equality) was the most selected goal overall, and this prompted management to think "what are we doing to address gender equality?" as this is clearly something their staff cared about. This made management reflect and they noticed all their breakout and meeting room spaces were named after male scientists. Within a few days, they had changed the names of the rooms to female scientists to celebrate and recognize the contribution of females in the field. It was a small but mighty gesture. I also collaborated with another business customer who developed and introduced a monthly reward and recognition program called SDG Champions, which celebrated staff who embodied and actioned the SDGs in their workplace. Finally, I worked with other business customers, and they adopted more sustainable procurement practices and sought new partnerships with suppliers who were more eco-friendly and environmentally conscious in their business practices (e.g., helped promote more sustainable decision making). This ranged from simple everyday purchasing decisions (e.g., swapping out cleaning products for more eco-friendly options or changing the coffee being brewed to a fair-trade option) to larger-scale more impactful efforts (e.g., upgrading combustion vehicles to an all-electric fleet).

Informed Future Action and Power Lessons

While sustainable entrepreneurial ventures are concerned about the environmental future, it seems that they are also (rightly) concerned with their longevity as a business. The longer they are functioning and the larger the scale, the greater the potential for doing good in their communities. It seems that a clear purpose and a focused vision of the future helps inform present decisions. Bead & Proceed's future focus has had a ripple effect on its business customers. For example, the businesses and organizations it works with are encouraged to explore other frameworks that articulate collective values through the lens of SDGs. Some businesses have set the goal to pursue a B Corp Certification, become a certified Ākina Impact Supplier (impact-led organizations that trade with other businesses and/or government and want to demonstrate that they make a positive impact)[6] and explore other social enterprise models (e.g., Fair Trade, AsureQuality certification, BioGro certification, etc.). In addition, government and non-profit customers are using SDGs to explain and structure their annual and long(er) term plans. Through the facilitation of 100's of Bead & Proceed workshops with over 10,000 participants, numerous companies (~50), communities, and countries, the following Power Lessons for sustainable entrepreneurship in context of the SDGs are offered:

It has been apparent how many people feel a sense of helplessness about where to start making impact – it seems there is this sense of feeling like they are just a drop in the ocean. Workshopping with people has made me see and realize how many people feel this sense of "what's the point" and impending doom. Reflecting and discussing this with peers and colleagues has seemed to help reframe the bigger issue of where to start with a more action-oriented focus on how to start. To these ends, clarity, direction, and self-reflection are the first steps needed to make impact – the rest can fall into place thereafter.

[6] *Impact certification*. (2022). Ākina Foundation. https://www.akina.org.nz/social-enterprises/impact-certification

The SDG that is least selected is SDG 8 (Decent Work and Economic Growth). The misconception here is that money (in context of economic growth) is evil, and people feel reluctant to choose it for that reason. It is important to recognize that sustainable entrepreneurship is about the environment, communities, and citizens in balance with the economy, work force, and supply/demand.

The SDG most often selected is SDG 10: Reduced Inequalities with SDG 13: Climate Action and SDG 12: Responsible Consumption and Production close behind. What is most interesting is how the most popular goal(s) tend to shift depending on what's happening in the world. For example, SDG 3: Good Health and Well-being has grown in selection through COVID-19 (people recognized and appreciated the need and access to standard healthcare and how being in isolation and lockdown impacted mental health) and SDG 16: Peace, Justice, and Strong Institutions have grown in popularity with the war in Ukraine.

I have come to recognize that workplaces are yearning for a safe space to feel heard, connect with colleagues and desire to tap into raw, messy creativity in ways they are not typically engaged. There is a misconception that problems can only be solved behind a computer screen and through this we have lost touch with our inner child (a place where creativity is a currency). I think we need to reconnect with this inner child because these times demand us to be fearless to imagine the impossible and approach these challenges with a sense of optimism and a "what if it does work" approach.

An emergent framework derived from this research can now be presented, which identifies key themes that have arisen as discerned through Bead & Proceed's operational experiences. A Sustainable Entrepreneur Enterprise Framework includes the following dynamic themes: Mission Driven with a Clear Purpose; Sustainable Decision Making & Mindset; Social Value Proposition & Delivery for Impact; and Informed Future Action.

Figure 2
Sustainable entrepreneur enterprise framework and corresponding themes.[7]

CONCLUSION

The UN, by way of its 2030 Development Agenda and SDGs recognizes that "ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests" (*The 17 goals*, 2023). Numerous sustainable entrepreneurship initiatives (i.e., policies and practices) across many sectors, e.g., agribusiness, energy, construction, health care, education, are being deployed globally and locally to achieve these goals (Terán-Yépez et al., 2020). This serves as a testament to the ways that policy and programs, deployed at a global level, have shaped regional and local businesses and communities, and have started to develop impacts on the wider SDGs in observable ways.

Muñoz and Cohen (2018) focus on the development and implementation of business models designed with the intention to create value for society (without negative impact to the

[7] Inner framework depiction developed by the authors; outer color wheel from United Nation's Sustainable Development website at: https://www.un.org/sustainabledevelopment/news/communications-material/

environment), but with a clear economic value for the entrepreneur. Balancing a venture's mission-driven focus by creating value and improving the quality of society and environment, generating financial returns, and developing innovative business models, offerings, processes, and/or approaches represents the tripartite purpose of sustainable entrepreneurship. Sustainable entrepreneurship entails establishing sustainable business models supporting financial stability, while also existing (as mission-driven entities) to mitigate environmental impact or advance environmentally conscious production, distribution, education, consumption, and disposal. The best-test for sustainability is to accomplish this task by fostering a future that allows the generations beyond, to not only meet their needs but thrive in their environment.

As a social enterprise business, Bead & Proceed has dedicated itself to sustainable entrepreneurial practices. An additional dynamic Bead & Proceed exemplifies is through its mission to inform, educate, and operationalize the SDGs across the communities it serves through government, non-profit, and educational customers, and across economies through businesses and other organizations. Bead & Proceed represents a sustainable entrepreneurial venture with a bipartite impact that illuminates relevant, transferable lessons. These may be applicable to both existing and future emerging entities that want to integrate the SDG framework into their problem-solving approaches and the impact they have. As well, scholars who are concerned with developing a better understanding of sustainable entrepreneurship may be further informed by the practitioner experiences and insights presented in this present research and encouraged to seek more through further research.

An overarching observation that is relevant and perhaps inspiring to future sustainable entrepreneurs is that one should not dismiss or otherwise underestimate the potential power of a small and simple idea. It is these simple ideas that can have the biggest impact as they do not get lost in translation across people, organizations, governments, and communities. To these ends, when it comes to the sustainability of the planet, we do not need one really great world changing idea, we need thousands of small, impactful, and considerate community changing ideas across a range of people, entrepreneurs, organizations, and communities.

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FIVE CORPORATE SOCIAL RESPONSIBILITY FACTORS ON EMPLOYEE JOB SATISFACTION: A STUDY OF EMPLOYEE GENERATION DIFFERENCES

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ABSTRACT

This research explored Corporate Social Responsibility (CSR) factors on employee job satisfaction. Our study contributes to the literature by developing a theoretical model and testing the links between five CSR factors of environment, human rights and labor, product responsibility, community engagement, and corporate governance on job satisfaction using multiple regression analysis for Gen X, Gen Y, and Gen Z employees. A survey was distributed to 621 working employees aged 18-55 through Amazon Mechanical Turk and college students in a public university, resulting in the sample data (N = 546). Findings identified CSR significance on job satisfaction were the environment, human rights and labor, and product responsibility for Gen X; for Gen Y, human rights and labor, product responsibility, and environment for Gen Z, human rights and labor and environment. Community engagement and corporate governance-related CSR factors were not significantly related to job satisfaction for the three generations. The research provided insight into which CSR variables impact job satisfaction most and what CSR initiatives were valued most by Gen X, Y, and Z.

Keywords: *Job Satisfaction, Corporate Social Responsibility, Employee Generations, Environment, Human Rights and Labor, Product Responsibility, Community Engagement, Corporate Governance*

INTRODUCTION

The growing awareness of corporate social responsibility (CSR) has raised questions about how the behavior of firms may affect employees' job satisfaction. Job satisfaction can be defined as the emotional state of individuals, resulting from their perception of their job and the degree to which there is a good fit between individuals and the organization (Jehanzeb & Mohanty, 2018).

Employee job satisfaction influences organizational commitment, motivation, and productivity and increases employee creativity. Furthermore, job satisfaction improves cost-effectiveness and corporate profits. Therefore, a satisfied employee can help the organization achieve its internal and external strategic goals (Jehanzeb & Mohanty, 2018).This study examined the impact, order of significance, and differences of five CSR factors: Environment, Human Rights and Labor, Product Responsibility, Community Engagement, and Corporate Governance between Baby Boomers, Gen X, Y, and Z, on job satisfaction.

Studies have shown that when employees and organizations share common values and beliefs, positive behavior will occur through improved organizational commitment, lessened turnover rates, and improved task performance. CSR has positively affected employee attitudes and work-related behaviors (Wisse, 2014). Jehanzeb and Mohanty (2018) determined that employee commitment, workplace harmony, productivity, creativity, and innovation positively correlate with job satisfaction.

Research studies have identified the positive impact of each independent CSR factor of environment-related, human rights and labor, product-responsibility, community engagement, and governance on employee job satisfaction (Akabanda et al., 2017; 2019; Frey et al., 2013; Lewin et al., 2020; Marshall, 2020; Mascarenhas et al., 2020; Newsham et al., 2018; Pinzone et al., 2019; Regmi et al., 2009; Sharma & Mani, 2012; Singhapakdi et al., 2019). In addition, researchers have identified Baby Boomers, Gen X, Gen Y, and Gen Z generational differences in each independent CSR factor of environment-related, human rights and labor, product-responsibility, community engagement, and governance CSR factors on employee job satisfaction (Al-Tawil et al., 2021; Becchetti et al., 2017; Cunha da Silva et al., 2015; Jain, 2018; Lup & Booth, 2019; Ng & Salamzadeh, 2020; McGlone et al., 2011; Partouche et al., 2020; Reisenwitz & Iyer, 2009; Shams et al., 2020; Tafolli & Grabner-Krauter, 2020; Valentine & Godkin, 2016; Wisse et al., 2018; Xie et al., 2020; Zainee & Puteh, 2020).

However, few research studies have explored how all five factors combined– environment, human rights and labor, product responsibility, community engagement, and corporate governance-related CSR- affect employees' job satisfaction. Furthermore, few studies have examined the differences of such impacts of the five factors among three generations – Gen X, Gen Y, and Gen Z employees.

Five central hypotheses were developed based on the reviewed literature to create a survey instrument aligned with the hypotheses. We use regression analysis to perform statistical analysis on the survey data collected from Amazon Mechanical Turk in August 2020 and college students in a public university. The empirical study investigated the impact of five CSR factors

on employee job satisfaction and the generational differences in employees' job satisfaction regarding the five CSR factors. The findings of this research add to the body of knowledge in management literature and can assist organizations with prioritizing CSR factors that impact employee job satisfaction across generations.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Environment-related CSR and Job Satisfaction

Pinzone et al. (2019) studied employers engaged in environmental improvements and greener businesses, and providing green training to motivate employees to engage in green-related behaviors impacts employee job satisfaction. Two-hundred sixty participants of health care professionals from 8 occupational categories were selected to complete a survey. Based on the results of the collected data, it was found that green training for healthcare professionals not only had a positive effect on their job satisfaction but also that employees had a better understanding of their behaviors both inside and outside the hospital environment. After obtaining the necessary environmental awareness and professional knowledge through green training, employees increased their awareness of the importance of adopting environmental activities within the organization.

Newsham et al. (2018) conducted a study to identify the differences in outcomes between employees working in green-certified organizations versus those working in conventional buildings. The study analyzed archival data from one large Canadian financial private-sector organization's records. The final dataset for analysis consisted of ten Leadership in Energy and Environmental Design (LEED) certified buildings and ten conventional buildings with 14,569 individual employees. The researchers found job satisfaction was higher for employees in green-certified buildings than those in conventional buildings. As a result of prior research, we hypothesize the following:

Hypothesis 1a – Environment-related CSR is directly related to job satisfaction among employees.

Environment-related CSR, Job Satisfaction, and Employee Generation

Wisse et al. (2018) studied age as a potentially crucial moderator in the relationship between CSR and employee satisfaction. Five hundred employees from 58 diverse industries in the Netherlands participated in an online business experiment. A regression was performed with CSR (0=low CSR; 1=high CSR), the standardized measure of employee chronological age and interaction as predictors, and employee satisfaction as the dependent variable. Wisse et al. (2018) found that participants experienced higher satisfaction when working in a socially responsible organization.

Zainee and Puteh (2020) studied the importance of corporate social responsibility, including ethical and philanthropic responsibilities, on employee retention among Generation Y in the accounting profession. Employee retention is derived from employee engagement and job

satisfaction concepts (Zainee & Puteh, 2020). Philanthropic responsibilities include environmental CSR factors of giving back to the environment and environmental protection. A questionnaire was administered to 377 Gen Y accounting professionals in Klang Valley, Malaysia. A correlation analysis and multiple regression analysis revealed a significant relationship between philanthropic responsibilities and retention, hence, job satisfaction of Gen Y accountants (Zainee & Puteh, 2020). As a result of prior research, we hypothesize the following:

> *Hypothesis 1b – Generation moderates the effect of environment-related CSR on employees' job satisfaction in the workplace, such that environment-related CSR is more positively related to the job satisfaction of younger generations.*

Human Rights & Labor-related CSR and Job Satisfaction

Marshall (2020) researched the impact of organizations implementing a workplace wellness program for their employees and whether it improved their health and employee job satisfaction. The survey participants comprised 200 contracted food service employees, ranging from entry-level positions to senior managers who provide services to higher education organizations. The study results statistically show that workplace wellness program plans can improve employees' health and increase job satisfaction, thereby keeping employees in the organization.

Using five dimensions, Chan and Mohd Hasan (2019) employed a cross-sectional correlational survey design and multistage sampling to determine the relationship between corporate social responsibility and job satisfaction. The study included 285 academic and nonacademic professionals at a public university in Malaysia. Using an ANOVA test for regression analysis, the researchers found that human rights and labor CSR factors are significantly related to employees' job satisfaction. As a result of these studies, we hypothesize:

> *Hypothesis 2a: Human rights and labor-related CSR are positively related to employees' job satisfaction.*

Human Rights & Labor-related CSR and Job Satisfaction, and Employee Generation

Since the middle of the 20th century, the proportion of laborers joining trade unions and the participation rate of trade union members has declined. The quantitative research conducted by Smith and Duxbury (2019) involved statistical analysis of survey data to determine the possible differences in attitudes towards and against unions among Baby Boomers, Gen X, Y, and Z. The survey results found that the older generations are more supportive of trade unions than the younger generations.

Harvey et al. (2002) studied safety culture in organizational environments that can influence behavior in the nuclear industry. A questionnaire was conducted on safety attitudes and values among 1,550 employees of two nuclear power plants in the UK. The data distinguished three employee groups with two or more safety cultures in the organization regarding training

and teamwork. The analysis showed that the six factors shared by the factory floor and the management team are related to management style, communication, responsibility, commitment, risk-taking, job satisfaction, and risk awareness. As a result of previous studies, we hypothesize the following:

> *Hypothesis 2b: Generations moderate the effect of human rights and labor-related CSR on employees' job satisfaction in the workplace, such that human rights and labor-related CSR is more positively related to job satisfaction of the older generation.*

Product Responsibility-related CSR and Job Satisfaction

Frey et al. (2013) studied the role of professional service customers as an indicator of employees' job satisfaction. The researchers conducted a dyadic field study using responses from participants of professional services firms. The data came from 172 respondents using a scenario-based experiment setting. There were 112 responses as part of the dyadic data set. A multivariate analysis of variance (MANOVA) identified a significant relationship between customer satisfaction and employee job satisfaction.

Sharma and Mani (2012) researched if bank productivity derives from the various products and services launched or the employees providing these services to customers. The research drew data using a sample of 3,000 employees in India working at various private, public, and foreign banks. The research findings revealed that the higher the employee job satisfaction, the better the service quality; thus, employee job satisfaction correlates to customer satisfaction and bank productivity. As a result of these findings, we hypothesize the following:

> *Hypothesis 3a: Product responsibility-related CSR is positively related to the job satisfaction of employees.*

Product Responsibility-related CSR, Job Satisfaction, and Employee Generation

Partouche et al. (2020) studied the effect of cause-related marketing (CRM) campaigns on Gen Y. The research findings indicated that more than 60% of Gen Y prefer brands such as CRM campaigns that fight for their causes and brands that support such causes. The two-way ANOVA displayed positive attitudes in the advertisement of products that present a promotional CRM message.

Xie et al. (2020) researched the health/risk perceptions and attitudes towards health/risk foods in the immediate context of a food crisis. The data was collected from 1,008 people in January 2020 to explore the different opinions of each generation on organic food and game meat. Gen Y and Z had a more negative attitude towards game meat than Gen X, while Gen X and Y found organic food of more importance the Gen Z due to their nutritional and medicinal values. As a result of these findings, we hypothesize the following:

Hypothesis 3b: Generations moderate the effect of product responsibility-related CSR on employees' job satisfaction in the workplace, such that product responsibility-related CSR is more positively related to job satisfaction of older generations.

Community Engagement-related CSR and Job Satisfaction

Singhapakdi et al. (2019) researched whether entities engaged in perceived CSR activities impacted job satisfaction and the employee's workplace experience. The study defined CSR values as an employee's perceived commitment to society's welfare and to socially responsible decisions. A questionnaire was used to survey 820 employees of different occupations from six companies in Thailand. Findings revealed that 86% of employees perceived organization CSR values correlated with job satisfaction.

Mascarenhas et al. (2020) studied the impact of an organization's CSR activities on employees' job satisfaction. Data was collected from 171 questionnaires distributed to teaching and nonteaching staff at a university in northern Portugal. The results were analyzed using the partial least squares structural equation modeling approach. A social dimension of CSR was measured in the study, such as an organization's contribution to the well-being of society through cultural and charitable projects and encouraging employees to participate in volunteering activities. The study results showed that employees' job satisfaction was positively influenced by an organization's CSR activities, such as their commitment to the welfare of society. As a result of these findings, we hypothesize the following:

Hypothesis 4a: If an organization practices more community engagement-related CSR, then the job satisfaction of employees will be higher.

Community Engagement-related CSR, Job Satisfaction, and Employee Generation

Lup and Booth (2019) studied the work-related experience of employees participating in community volunteer service and employee job satisfaction. The survey results were from a sample of participants who were asked about their donation time and voluntary behavior. The research revealed that job satisfaction had a positive impact on employees' engagement in the community in the form of volunteering. Findings also concluded that Gen Y employees were less likely to participate in voluntary service than Gen X.

Cunha da Silva et al. (2015) researched the drivers of organizational commitment for Gen X, Y, and Z at 394 organizations in Brazil. One of the nine constructs studied was societal responsibility, such as the organizations' initiatives within the community and volunteer programs. There were 102,540 respondents in the study, and the relationships were tested using regression analyses. Findings identified a significant positive relationship between all three generations, societal responsibility, and job satisfaction. However, Gen X considered societal responsibility among the top 3 constructs in organizational commitment and job satisfaction. As a result of these studies, we hypothesize:

Hypothesis 4b: Generations moderate the effect of community engagement-related CSR on employees' job satisfaction in the workplace, such that community engagement-related CSR is more positively related to the job satisfaction of older generations.

Corporate Governance-related CSR and Job Satisfaction

Tafolli and Grabner-Krauter (2020) studied perceived CSR within an organization and the relationship between ethical leadership, corruption, and employee job satisfaction. A Questionnaire was distributed to 434 individuals working at public and private organizations in Kosovo. A Pearson correlation matrix showed that organizations with a higher perceived ethical leadership led to higher employee job satisfaction. In addition, the research found that job satisfaction and perceived organizational corruption were negatively correlated.

Valentine and Godkin (2016) researched the impact of employers that use different ethical policies and corporate social responsibility toward their employees to identify employee attitudes toward work. The research aimed to determine how ethical training and developing socially responsible ethical work standards can promote positive thinking about work and employee job satisfaction. The data collected information from 781 individuals working in an education-based health science center. The research findings revealed that employee job satisfaction and work attitude were identified after several hours of ethics training and standard ethics guidelines. As a result of these findings, we hypothesize the following:

Hypothesis 5a: If an organization practices more corporate governance-related CSR, then the job satisfaction of employees will be higher.

Corporate Governance-related CSR, Job Satisfaction, and Employee Generation

Becchetti et al. (2017) researched which corporate responsibility (CR) factors were related to corporate governance or environmental issues. The study consisted of a questionnaire distributed among university students attending the Faculty of Economics of Tor Vergata. The results found that environmental (renewable energy) and labor (health and safety at work) issues scored significantly higher than customer satisfaction, corporate governance, and animal testing. In addition, because of their attitudes toward social and environmental issues. However, Gen Y was likelier to find jobs with companies with shared corporate governance-related values.

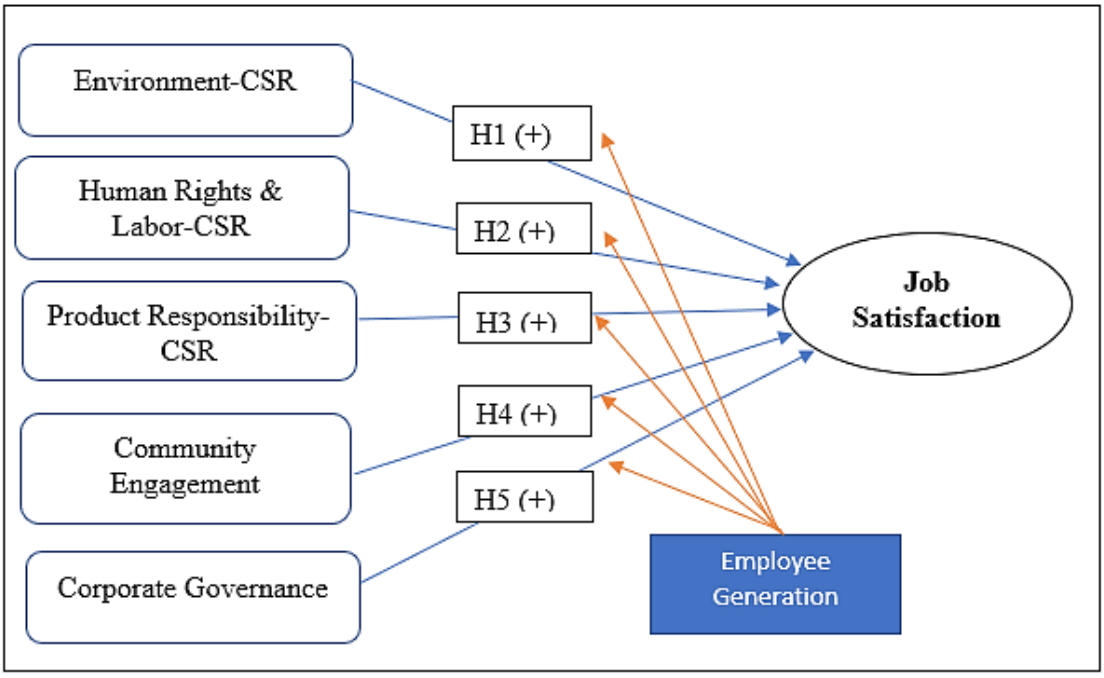
McGlone et al. (2011) researched an organization's strategic plan and the organization's ability to attract and retain Gen Y employees. The researchers investigated Gen Y attitudes and the correlation between these attitudes and their willingness to work for organizations that prioritize corporate social responsibility. Nine non-profit executives explained the company's CSR ideology in both for-profit and non-profit organizations. The results showed that Gen Y employees were likelier to work and stay in companies focusing on corporate responsibility. As a result of these findings, we hypothesize the following:

Hypothesis 5b: Generations moderate the effect of corporate governance-related CSR on employees' job satisfaction in the workplace, such that corporate governance-related CSR is more positively related to the job satisfaction of younger generations.

METHODOLOGY

In the previous section, we developed five research hypotheses about employees' job satisfaction in the workplace and modifications by generation. Based on these hypotheses, we have developed a research framework shown in Figure 1 – Conceptual Model.

Figure 1. Conceptual Model



Job Satisfaction Variable

Job satisfaction was used as the dependent variable in this study. Spector (1985) reviewed significant and essential literature in the study of job satisfaction. The scale measured nine aspects concerning job satisfaction that were chosen from the literature review on the dimensions of job satisfaction. The nature of satisfaction means that a person will continue to engage in a satisfactory job or quit an unsatisfactory job. This study assessed the feeling of work and measured it individually. Job satisfaction is derived from the facets of the job compared to an employee's expectations. The literature assessed job satisfaction resulting from employees' attitudes, as shown relative to an individual's behavior. Factors correlated with satisfaction included withdrawal behavior, turnover, absenteeism, and withdrawal intentions. We used three

items from Spector (1985) to measure employees' satisfaction with their jobs. The three items in our study were as follows:

- In general, I do not like my job (reverse coded).
- All in all, I am satisfied with my job.
- In general, I like working here.

Environment-related CSR Variable

Woo (2013) developed the Environmental-related CSR variable using the Global Reporting Initiative (2021). This variable was measured by three items from Woo (2013). Among the variables, he includes five dimensions: environment, human rights and labor, product responsibility, social and economic. Among the five dimensions, we selected the environment dimensions to measure the environment-related CSR variable in this study. Woo and Jin (2012) described the environmental dimension as material use, energy use, water use, biodiversity, emissions, effluents and wastes, environmentally friendly products and services, and emissions from transportation. The three items in our study were as follows:

I think the company I work for tries to:

- Take care of water, energy, and material uses.
- Minimize pollution when producing products/services.
- Invest in protecting the environment.

Human Rights and Labor-related CSR Variable

Woo (2013) developed the Human Rights and Labor-related CSR variable using the Global Reporting Initiative (2021). This variable was measured by three items from Woo (2013). Among the variables, he includes five dimensions: environment, human rights and labor, product responsibility, social and economic. Among the five dimensions, we picked the human rights and labor dimensions to measure the human rights and labor-related CSR variable in this study. Woo and Jin (2012) described the human rights and labor dimension as non-discrimination, freedom of association and collective bargaining, child labor, forced and compulsory labor, security practices, and indigenous rights. The three items in our study were as follows:

- Protect human rights at workplaces
- Allow the freedom of labor unions and forbid discrimination
- Clarify health care benefits for employees

Product Responsibility-related CSR Variable

Woo (2013) developed the Product Responsibility-related CSR variable using the Global Reporting Initiative (2021). This variable was measured by two items from Woo (2013). Among the variables, he includes five dimensions-environment, human rights and labor, product responsibility, social and economic. Among the five dimensions, we picked the product responsibility dimensions to measure this study's product responsibility-related CSR variable.

Woo and Jin (2012) described the product responsibility dimension as customer health and safety, honest product labeling, considerable marketing communication, customer privacy, and compliance with regulations. The two items in our study were as follows:

- Clearly, label/explain products/services for customers.
- Take care of customer complaints

Community Engagement-related CSR Variable

Woo (2013) developed the CSR variable using the Global Reporting Initiative (2021). This variable was measured by two items from Woo (2013). For the variable, he included five dimensions: environment, human rights and labor, product responsibility, social and economic. We picked one item from the social and economic dimensions among the five dimensions. With the two items, we created a new variable, community engagement. Woo and Jin (2012) and Woo (2013) described the social dimension with community engagement-related items such as local community welfare. They also described the economic dimension with community engagement-related items such as indirect societal impacts. We picked those two items as a proxy to measure the community engagement variable. The two items in our study were as follows:

- Invest in developing local community welfare
- Consider the indirect impacts of marketing programs on society

Corporate Governance-related CSR Variable

Woo (2013) developed the Corporate Governance-related CSR variable using the Global Reporting Initiative (2021). This variable was measured by two items from Woo (2013). For the variable, he included five dimensions: environment, human rights, and labor, product responsibility, social and economic. We picked one item from the social and economic dimensions among the five dimensions. With the two items, we created a new variable, corporate governance. Woo and Jin (2012) and Woo (2013) described the social dimension with corporate governance-related items such as avoiding corruption in business. They also described the economic dimension of corporate governance-related items, such as providing company financial information to the public. We selected those two items as a proxy to measure the community engagement variable. The two items in our study were as follows:

- Avoid corruption in business
- Provide the company's financial information to the public

Gen Z, Gen Y, and Gen X

Dhopade (2016) defines Gen Z as employees born between 1993 and 2011. Other studies described Gen Z as people born after 1994 (Batech, 2019), born between 1995 to 2015 (Kasasa, 2020), born between 1996 to 2010 (Brown et al., 2019), or born between 1997 and 2013 (Schroth, 2019). In short, most documents indicate that Gen Z employees were born between 1993 and 1997. Using a median value from 1993 to 1997 for the beginning of Gen Z employee

birth year appeared fair. Therefore, this study used the median value, 1995. Thus, employees were categorized into three generations in this study as of August 2020, as follows:

- Gen Z: 18 to 24 years old
- Gen Y: 25 to 39 years old
- Gen X: 40 to 55 years old

Regression Model

This study proposed building a model on job satisfaction using regression analysis. Job satisfaction was used as the dependent variable in the proposed regression model, and five CSR factors, including environment, human rights and labor, product responsibility, community engagement, and corporate governance, are used as independent variables. The multiple regression model is expressed as follows:

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

Where Y_1 = Job Satisfaction
X_1 = Environment-related CSR (ENV)
X_2 = Human Rights and Labor-related CSR (HRL)
X_3 = Product Responsibility-related CSR (PR)
X_4 = Community Engagement-related CSR (CE)
X_5 = Corporate Governance-related CSR (CG)

Sample Data

This research created and used a survey questionnaire to measure the variable items based on the literature, as shown in the summary table. The questionnaire was posted on Google Forms. Survey data were collected using Amazon Mechanical Turk. The three conditions required for the study were that Amazon Mechanical Turk workers be employed between the ages of 18 to 55 and comprised of equal sampling among the three generations – Gen Z, Gen Y, and Gen X. The survey ran in the third week of April 2020 and received 220 responses. During the fourth week of August 2020, the survey was rerun. The second survey collected 350 responses. In addition, we collected 51 surveys from senior students and MBA students in a public university in the New England region. In sum, we collected 621 valid responses. We deleted nine repeated responses and 24 responses with multiple missing values, which resulted in 588 responses. In addition, from the 588 responses, we used the items with reverse codes and identified 42 inadequate responses. In total, 546 sample cases were used in this research.

RESULTS

The sample data included 546 responses from the online survey via Amazon Mechanical Turk. Table 1 reported the sample data of 136 responses from Gen Z employees (24.9%), 307 from Gen Y (56.2%), 87 from Gen X (15.9%), and 16 from Boomers (2.9%)

Table 1 Generations		
	Frequency	**Percent**
Gen Z (18 to 24)	136	24.9
Gen Y (25 to 39)	307	56.2
Gen X (40 to 55)	87	15.9
Boomers (>= 56)	16	2.9
Total	546	100.0

Descriptive Statistics & Correlation Analysis Results

Descriptive statistics showed the mean averages of all the variables were above 4.5 on 1 to 7 Likert scale data (1 = strongly disagreed and 7 = strongly agreed). The job satisfaction variable (5.272±1.650), HRL variable (5.334±1.324), PR variable (5.664±1.139), and CG variable (5.082±1.358) were above 5 on average. The averages of the ENV variable (4.535±1.584) and CE variable (4.807±1.538) were close to 5.

Data showed that correlations between the job satisfaction variable and each of the five CSR variables were statistically significant ($p < 0.001$). The job satisfaction variable was highest correlated with HRL ($R^2 = 0.515$), followed by ENV ($R^2 = 0.406$), CE ($R^2 = 0.406$), CG ($R^2 = 0.397$), and PR ($R^2 = 0.376$). Table 2 reported the descriptive statistics and correlations.

Table 2 Descriptive Statistics and Correlation Analysis for All Data (N = 546)									
	Mean	SD	N	(1)	(2)	(3)	(4)	(5)	(6)
(1) JS	5.272	1.650	546	1					
(2) X1_ENV	4.535	1.584	546	.406***	1				
(3) X2_HRL	5.334	1.324	546	.515***	.540***	1			
(4) X3_PR	5.664	1.139	546	.376***	.263***	.533***	1		
(5) X4_CE	4.807	1.538	546	.406***	.644***	.665***	.366***	1	
(6) X5_CG	5.082	1.358	546	.397***	.487***	.623***	.449***	.666***	1
#p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001									

Regression Model for All Generations

The following regression model tested all data (N=546) and included five independent variables - ENV, HRL, PR, CE, and CG to estimate the dependent variable, job satisfaction (JS). The model was statistically significant [$R^2 = .306$, $R^2_{adj} = .299$, $F(5,540) = 47.533$, $p < .001$]. As shown in Table 3a, ENV, HRL, and PR were statistically significant to JS ($p \leq .001$). CE and CG had no statistical significance. HRL had the most impact on JS, according to the standardized regression coefficient *BETA* (.313), followed by ENV (.176) and PR (.138). No serious multicollinearity was present in the regression model because all variance inflation factors (VIFs) were less than 10 (Vittinghoff et al., 2012), and the condition index (CI) was less than 30

(Kennedy, 2003). Table 3a reported the results of the regression model for all generation employees.

Table 3a
Regression Model Results for All Generations

DV = JS; R^2 =.306, R^2_{adj} = .299, F (5,540) = 47.533, p <.001; CI = 18.646; N = 546

	B	SE	*BETA*	*t-statistic*	*p-value*	VIF
(Constant)	.893	.324		2.757	.006	
X1_ENV	.184	.050	.176	3.681	<.001	1.784
X2_HRL	.390	.069	.313	5.673	<.001	2.370
X3_PR	.200	.063	.138	3.200	.001	1.454
X4_CE	-.006	.062	-.006	-.099	.921	2.636
X5_CG	.071	.063	.058	1.123	.262	2.086

Note: DV = Dependent Variable; CI = Condition Index, B = Regression Coefficient, SE = Standard Error, BETA = Standardized Regression Coefficient, VIF = Variance Inflation Factor

Best-Fit Regression Model for All Generations

This study developed the best-fit regression model for all employee generations, using the stepwise method for further analysis. The results identified the best-fit model was a regression model with only three independent variables – ENV, HRL, and PR because it had the highest adjusted R^2 (0.300). The best-fit model was statistically significant [R^2 = 0.304, R^2_{adj} = 0.300, F(3, 541) = 78.849, p < 0.001]. Job satisfaction was significantly related to ENV (p < 0.001), HRL (p < 0.001), and PR (p < 0.001). According to the *BETA*, ENV impacted employees' JS the most (0.335), followed by HRL (0.187), and PR (0.148). No serious multicollinearity was present in the model [VIFs < 5; CI = 15.008]. Table 3b provides the best-fit model results.

Table 3b
Best-Fit Regression Model Results for All Data

DV = JS; R^2 =.304, R^2_{adj} = .300, F (3,541) = 78.849, p <.001; CI = 15.008; N = 546

	B	SE	*BETA*	*t-statistic*	*p-value*	VIF
(Constant)	.950	.320		2.969	.003	
X1_ENV	.417	.061	.335	6.889	<.001	1.838
X2_HRL	.195	.044	.187	4.384	<.001	1.413
X3_PR	.215	.061	.148	3.493	<.001	1.399

Regression Analysis for Gen X Employees

The regression model for Gen X employees was statistically significant [R^2 = .391, R^2_{adj} = .353, F(5,81) = 10.399, p < .001; N = 87]. ENV and PR were found to be statistically significant to Gen X's job satisfaction (p < .05). HRL was marginally significantly related to Gen X's job satisfaction (p < .10). Two other independent variables, CE and CG were not statistically significant among Gen X. According to *BETA*, ENV (.335) had most impacts on JS, followed by

HRL (.284) and PR (.208). No serious multicollinearity was present [VIFs < 5; CI = 22.361]. Table 4a exhibits the regression model results for Gen X employees.

Table 4a
Regression Model Results for Gen X Employees

DV = JS; R^2 =.391, R^2_{adj} = .353, $F(5,81) = 10.399$, p <.001; CI = 22.361; N = 87

	B	SE	*BETA*	*t-statistic*	*p-value*	VIF
(Constant)	-.351	1.033		-.340	.735	
X1_ENV	.366	.128	.335	2.860	.005	1.8296
X2_HRL	.361	.190	.284	1.896	.062	2.991
X3_PR	.411	.195	.208	2.110	.038	1.291
X4_CE	.013	.166	.011	.080	.937	2.617
X5_CG	-.088	.174	-.069	-.507	.614	2.497

The best-fit model for Gen X employees was statistically significant [R^2 = 0.389, R^2_{adj} = 0.367, F (3, 81) = 17.614, p < 0.001; N = 87]. ENV (p = .003), HRL (p = .037) and PR (p = .037) were statistically significant. No serious multicollinearity was present in the best-fit model [VIFs < 5; CI = 18.107]. Table 4b exhibits the best-fit model results for Gen X employees.

Table 4b
Best-Fit Regression Model Results for Gen X Employees

DV = JS; R^2 =.389, R^2_{adj} = .367, $F(3,81) = 17.614$, p <.001; CI = 18.107; N = 87

	B	SE	*BETA*	*t-statistic*	*p-value*	VIF
(Constant)	-.415	1.014		-.410	.683	
X1_ENV	.359	.147	.329	3.113	.003	1.519
X2_HRL	.311	.115	.245	2.124	.037	1.812
X3_PR	.407	.192	.206	2.114	.037	1.285

Regression Analysis for Gen Y Employees

The regression model for Gen Y employees was statistically significant [R^2 = .285, R^2_{adj} = .274, F (5,303) = 24.041, p < .001; N = 307]. HRL and PR were significantly related to JS (p < .001). ENV, CE, and CG were not statistically significant. According to *BETA*, HRL (.275) had most impacts on JS, followed by PR (.204). No serious multicollinearity was present in the model [VIFs < 5; CI = 19.310]. Table 5a exhibits the regression model results.

Table 5a Regression Model Results for Gen Y Employees						
DV = JS; R^2 =.285, R^2_{adj} = .274, $F(5,303) = 24.041$, p <.001; CI = 19.310; N = 307						
	B	**SE**	***BETA***	***t-statistic***	***p-value***	**VIF**
(Constant)	1.060	.416		2.546	.011	
X1_ENV	.100	.067	.102	1.489	.137	1.1968
X2_HRL	.328	.087	.275	3.753	<.001	2.259
X3_PR	.273	.080	.204	3.397	<.001	1.516
X4_CE	.015	.084	.014	.175	.862	2.804
X5_CG	.083	.079	.070	1.055	.292	1.841

The stepwise method-based best-fit model was statistically significant [R^2 = 0.282, R^2_{adj} = 0.275, $F(3, 303) = 39.644$, $p < 0.001$; CI = 15.110]. HRL and PR were strongly significant (p < .001), while ENV was significant ($p < .05$). No serious multicollinearity was present in the best-fit model [VIFs < 5; CI = 19.310]. Table 4-5b exhibits the best-fit model results for Gen Y employees.

Table 5b Best-Fit Regression Model Results for Gen Y Employees						
DV = JS; R^2 =.282, R^2_{adj} = .275, $F(3,303) = 39.644$, p <.001; CI = 15.110; N = 307						
	B	**SE**	***BETA***	***t-statistic***	***p-value***	**VIF**
(Constant)	1.165	.406		2.868	.004	
X1_ENV	.122	.057	.125	2.166	.031	1.410
X2_HRL	.360	.079	.301	4.530	<.001	1.864
X3_PR	.294	.078	.220	3.778	<.001	1.425

Regression Analysis for Gen Z Employees

The multiple regression model for Gen Z employees was statistically significant [R^2 = 0.400, R^2_{adj} = 0.376, $F(5, 130) = 17.301$, $p < .001$]. ENV ($p = .003$) and HRL ($p < .001$) were significantly related to JS, while other independent variables (PR, CE, CG) showed no statistical significance. According to *BETA*, HRL had the most impact on employee JS (0.488), followed by ENV (0.257). No serious multicollinearity was present in the model [VIFs < 5; CI = 17.409]. Table 6a exhibits the results on Gen Z employee data.

Table 6a
Regression Model Results for Gen Z Employees

DV = JS; R^2 =.400, R^2_{adj} = .376, $F(5,130) = 17.301$, p <.001; CI = 17.409; N = 136

	B	SE	*BETA*	*t-statistic*	*p-value*	VIF
(Constant)	.713	.599		1.189	.236	
X1_ENV	.291	.095	.257	3.044	.003	1.544
X2_HRL	.636	.14	.488	4.547	<.001	2.493
X3_PR	-.008	.117	-.006	-.067	.946	1.485
X4_CE	-.103	.116	-.097	-.886	.377	2.614
X5_CG	.083	.137	.067	.609	.544	2.597

Note: DV = Dependent Variable; CI = Condition Index, B = Regression Coefficient, SE = Standard Error, BETA = Standardized Regression Coefficient, VIF = Variance Inflation Factor

The best-fit regression model for Gen Z employees was statistically significant [R^2 = 0.396, R^2_{adj} = 0.387, $F(2, 130) = 43.539$, $p < .001$]. , shows which independent variables are most important to job satisfaction among Gen Z. The independent variable determined to have the strongest correlation to job satisfaction among Gen Z employees is human rights and labor-related CSR according to the p-value of < .001 and standardized regression coefficient BETA of .471. The model also shows that environment-related CSR is significant to the job satisfaction of Gen Z employees (p = .002). The best-fit model No serious multicollinearity was present in the model [VIFs < 5; CI = 9.800]. Table 6b exhibits the best-fit model results.

Table 6b
Best-Fit Regression Model Results for Gen Z Employees

DV = JS; R^2 =.396, R^2_{adj} = .387, $F(2 ,130) = 43.539$, p <.001; CI = 9.800; N = 136

	B	SE	*BETA*	*t-statistic*	*p-value*	VIF
(Constant)	.772	.484		1.595	.113	
X1_ENV	.275	.088	.244	3.137	.002	1.328
X2_HRL	.614	.101	.471	6.067	<.001	1.328

DISCUSSION

Evidence supported Hypothesis 1a – Environment-related CSR results that environment-related CSR was significantly related to job satisfaction ($p < .001$). The results were consistent with the literature that supported the claim that environment-related CSR positively impacted job satisfaction (Pinzone et al., 2019; Newsham et al., 2018; Pankaj & Vijay, 2015). Most research identified job satisfaction as positively impacted by an organization's contribution to the environment and commitment to greener practices in the workplace. As more organizations promote green practices in the workplace and positively contribute to the environment, employees find more value in these organizations than those that do not implement environment-related CSR practices. Therefore, the connection between personal and organizational values will increase employee job satisfaction.

Evidence did not support Hypothesis 1b – Environment-related CSR was positively related to job satisfaction, but environment-related CSR was not more significantly related to the job satisfaction of younger generations than the older generation. The regression analysis results identified that environment-related CSR was most significantly related to job satisfaction among Gen Z (p = .003) and Gen X (p = .005), with no significant correlation to the job satisfaction of Gen Y. The results were inconsistent with the literature which supported the claim that environment-related CSR has a more significant impact on the job satisfaction of younger generations than older generations (Rank & Contreras, 2021; Wisse et al., 2018; Zainee & Puteh, 2020; Jain, 2018). The differences may be attributed to our sample data. Prior research focused on job satisfaction among Gen Y employees, while our study incorporated results from three generations: Gen X, Gen Y, and Gen Z.

Evidence supported Hypothesis 2a – Human rights and labor-related CSR were positively related to job satisfaction among employees in the workplace. The results identified that human rights and labor-related CSR were significantly related to job satisfaction (p < .001). The results were consistent with the previous literature (Marshall, 2020; Chan & Mohd Hasan, 2019; Regmi et al., 2009). This study and previous studies demonstrate the importance of human rights and labor-related CSR in the workplace. In recent years, organizations have changed to become more diverse and inclusive, an important factor influencing employees' satisfaction and whether they choose to remain at their current organization.

The evidence does not support Hypothesis 2b – Human rights and labor-related CSR is not more significantly related to the job satisfaction of the older generations than younger generations. The results showed that human rights and labor-related CSR is most significant to Gen Y and Gen Z (p < .001), while it is only marginally significant to Gen X (p = .062). The results were inconsistent with the previous literature (Smith & Duxbury, 2019; Zainee & Puteh, 2020; Harvey et al., 2002). Previous literature found that human rights and labor-related CSR were more positively related to the older generation than the younger generation, and the overall findings for Gen Y were insignificant. We attributed the difference to the characteristics of human rights and labor-related CSR used in determining employees' levels of job satisfaction. The CSR initiatives that may be important to one generation may not be as important to another.

Evidence supports Hypothesis 3a – Job satisfaction was positively related to product responsibility-related CSR. The results show that job satisfaction is significantly related to product responsibility (p < .001). Our results are consistent with the literature that supports the claim that product responsibility positively impacts job satisfaction (Akabanda et al., 2017; Frey et al., 2013; Sharma & Mani, 2012). With numerous studies showing that a company's CSR practices significantly positively influence its employees, we attributed that when companies fulfill their employees' expectations regarding product responsibility-related CSR, they can achieve better work attitudes that will result in employees' job satisfaction in the workplace.

Evidence does not support Hypothesis 3b – Product responsibility-related CSR is not more positively related to employee job satisfaction of older generations. Our study found that job satisfaction is more positively related to product responsibility-related CSR among Generation Y (p < .001) than Gen X. The results are inconsistent with the literature (Partouche et al., 2020; Shams et al., 2020; Xie et al., 2020) that supports the claim that product responsibility-

related CSR positively impacts job satisfaction among the older generation (Gen X). There is no evidence to support product responsibility-related CSR on job satisfaction of the younger generations (Gen Y and Z) employees.

Evidence does not support Hypothesis 4a - Community engagement-related CSR did not significantly impact employees' job satisfaction. The results showed that community engagement-related CSR is not statistically significant to job satisfaction (p = .921). Our results are inconsistent with previous studies on community engagement-related CSR participation. Research has shown that employees are more likely to join organizations whose values are consistent with their values (Singhapakdi et al., 2019). The difference may be attributed to our survey data. The survey participants could work in business organizations that do not provide or engage in corporate social responsibility activities, and therefore, data should have been collected from employees who work for employers who engage in corporate social responsibility activities.

Evidence does not support Hypothesis 4b - The results revealed that job satisfaction is not significantly related to community engagement-related CSR among older generations. Our results are inconsistent with prior studies; a review of previous literature led to mixed results (Lup & Booth, 2019; Cunha da Silva et al., 2015; Reisenwitz & Iyer, 2009). Prior research reported that most of the older generation were satisfied in the workplace when organizations were more positively related to community engagement and positive contributions to the surrounding community.

Evidence does not support Hypothesis 5a – Job satisfaction was not higher in organizations that practice increased corporate governance-related CSR. Increased corporate governance-related CSR had no statistical significance on job satisfaction (p = .262). Our results are inconsistent with studies on corporate governance-related CSR about employees having a positive work attitude and being satisfied with continuing to work in the current company after experiencing several hours of ethics training and standard ethics guidelines (Tafolli and Gragner-Krauter 2020).

Evidence does not support Hypothesis 5b – Corporate governance-related CSR did not significantly impact job satisfaction among the generations. The results showed no statistical significance between corporate governance-related CSR and job satisfaction among Gen X (p = .614), Gen Y (p = .292), or Gen Z (p = .544). Our results are inconsistent with the prior studies; a review of previous literature led to mixed results. Ng and Salamzadeh (2020) found that perceived ethical leadership was not significantly related to intention to stay or job satisfaction among Gen Y, which agrees with the result of our study that showed no significant correlation between Gen Y and corporate governance-related CSR. However, Becchetti et al. (2017) and McGlone et al. (2011) found that Gen Y was concerned with their organizations' CSR initiatives and aligned values, which is inconsistent with the results of our study. Table 7 exhibits the summary of findings.

Table 7
Summary of Findings

Hypothesis	DV	IV	Moderator	Explanation
H1a	JS	ENV	None	Supported; $p < .001$ in the correlation, $p < .001$ in the regression model.
H1b	JS	ENV	Generation	Not supported; $p < .001$ in the correlation, but $p = .005$ in the regression model for Gen X, and $p = .137$ for Gen Y. Gen Z showed significance with $p = .003$.
H2a	JS	HRL	None	Supported; $p < .001$ in the correlation, $p < .001$ in the regression model.
H2b	JS	HRL	Generation	Not supported; $p < .001$ in the correlation, but p=<.001 in the regression model for Gen Y and Z. Gen X showed moderate significance with $p = .062$.
H3a	JS	PR	None	Supported; $p < .001$ in the correlation, $p < .001$ in the regression model
H3b	JS	PR	Generation	Not supported; $p < .001$ in the correlation, but p=.038 in the regression model for Gen X and $p = .946$ for Gen Z. Gen Y showed significance with $p < .001$.
H4a	JS	CE	None	Not supported; $p < .001$ in the correlation, but $p = .092$ in the regression model.
H4b	JS	CE	Generation	Not supported; $p < .001$ in the correlation, but $p = .937$ in the regression model for Gen X, $p = .862$ for Gen Y and $p = .377$ for Gen Z.
H5a	JS	CG	None	Not supported; $p < .001$ in the correlation, but $p = .262$ in the regression model.
H5b	JS	CG	Generation	Not supported; $p < .001$ in the correlation, but $p = .614$ in the regression model for Gen X, $p = .292$ for Gen Y and $p = .544$ for Gen Z.

CONCLUSION

This study found that environment-related, human rights and labor-related, and product responsibility-related CSR practices had the most influence on employee job satisfaction of all generations. The factors most significantly related to satisfaction among Gen X included environmental, human rights and labor, and product responsibility-related CSR. Job satisfaction among Gen Y was related to human rights and labor, product responsibility, and the environment, respectively. Only two CSR factors were significantly related to job satisfaction among Gen X: human rights and labor-related CSR and environment-related CSR. Community engagement and corporate governance-related CSR were not significantly related to job satisfaction among any of the generations.

Future studies could investigate how corporate social responsibility influences organizations in other ways. Only five independent CSR variables were utilized in the current study, whereas future studies could research other aspects or additional dimensions of corporate social responsibility. The sampling could be increased to reach a larger population, including more Gen X and Gen Z respondents. Future research could choose other moderators as a part of the study. Instead of evaluating generational differences in job satisfaction, the study could be

modified to a specific job industry, geographic location, or gender. Lastly, job satisfaction could be analyzed regarding the overall impact on organization productivity and employee turnover.

The research filled the gap in the literature by providing empirical evidence on which CSR-related factors contribute to job satisfaction among employees in the workplace. If an organization focuses on implementing corporate social responsibilities related to the environment, human rights and labor, and product responsibility, employees will be more satisfied, increasing productivity and reducing turnover. Those employees who are satisfied are likely to make positive contributions to the organization and remain committed to the organization.

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